



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

DEPARTAMENTO DE ORGANIZACIÓN DE EMPRESAS

EMPRENDEDORES

UNIVERSITARIOS Y SPINUPS:

EL CASO DE STARTUPV

EL ECOSISTEMA EMPRENDEDOR DE LA  
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

# TESIS DOCTORAL

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*A Laura y Mar, Ángela y Lande*

## **MIS AGRADECIMIENTOS**

A todos aquellos que han compartido conmigo su tiempo, sus ideas y sus emociones en este viaje hacia la ciencia.

Gracias de todo corazón.

Dani

# **EMPRENDEDORES UNIVERSITARIOS Y SPINUPS: EL CASO DE STARTUPV, EL ECOSISTEMA EMPRENDEDOR DE LA UNIVERSITAT POLITÈCNICA DE VALÈNCIA**

Presentada por: Daniel Martínez Aceves

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## **Resumen:**

El formato elegido para presentar la tesis es el de compendio de publicaciones. Cada uno de los tres artículos seleccionados, aporta nuevos datos a los objetivos y preguntas que se plantea esta tesis: caracterizar al emprendedor universitario y las empresas que se generan en los ecosistemas emprendedores universitarios. Se parte de un análisis general con una muestra internacional de 12 países y 20.000 egresados, para, posteriormente, concluir con un estudio de un caso concreto de emprendedores vinculados a un ecosistema universitario local.

Describir las características diferenciales existentes entre los jóvenes emprendedores universitarios, los autónomos y los trabajadores a nivel internacional así como sus competencias es el objetivo del primer artículo. El segundo artículo, pretende identificar y analizar las posibles diferencias de género existentes entre los emprendedores en lo relativo a las motivaciones para crear una empresa y en la conciliación de la vida laboral y personal. Los resultados del tercer artículo, ponen de manifiesto que las universidades pueden tener un papel determinante en la generación de futuras empresas de alto crecimiento. En este último artículo se plantea un nuevo concepto de empresa, las "spinups", empresas fundadas en ecosistemas emprendedores universitarios que se encuentran entre las startups, las spinoffs y las empresas gacela.

Las universidades son incubadoras naturales de proyectos de empresa, que en muchos casos pueden contribuir a la mejora de la sociedad. El objetivo de las futuras investigaciones debe ir dirigido hacia la comprensión y el análisis de las características comunes que puedan ser extrapolables a otros ecosistemas, lo cual supone un importante reto ya que los ecosistemas emprendedores son únicos e irrepetibles.

## **EMPRENEDORS UNIVERSITARIS I SPINUPS: EL CAS DE STARTUPV, L'ECOSISTEMA EMPRENEDOR DE LA UNIVERSITAT POLITÈCNICA DE VALÈNCIA**

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### **Resum:**

El format triat per a presentar la tesi és el de compendi de publicacions. Cadascun dels tres articles seleccionats, aporta noves dades als objectius i les preguntes que es planteja aquesta tesi: caracteritzar l'emprenedor universitari i les empreses que es generen en els ecosistemes emprenedors universitaris. Es parteix d'una anàlisi general amb una mostra internacional de 12 països i 20.000 egressats; per a, posteriorment, concloure amb un estudi d'un cas concret d'emprenedors vinculats a un ecosistema universitari local.

Descriure les característiques diferencials existents entre els joves emprenedors universitaris, els autoempleats - els autònoms i els treballadors a nivell internacional així com les seues competències és l'objectiu del primer article. El segon, es centra en les diferències de gènere dels emprenedors, identificant les motivacions que porten a les emprenedores i als emprenedors a crear una empresa i veure les possibles diferències. Les diferències de gènere més significatives apareixen en la forma d'afrontar la conciliació de la vida laboral i personal. Els resultats del tercer article, posen de manifest que les universitats poden tindre un paper determinant en la generació de futures empreses d'alt creixement. Així i tot, futures recerques han d'aportar més dades per a seguir definint un nou concepte, "spinup" o empresa gasela universitària, una empresa fundada en un ecosistema emprenedor universitari que es troba entre una startup i una spinoff.

Les universitats són incubadores naturals de projectes que poden ajudar a solucionar reptes socials i millorar la societat. L' objectiu de les futures recerques ha d'anar dirigit cap a la comprensió i anàlisi de les característiques comunes que puguen ser extrapolables a altres ecosistemes, la qual cosa suposa un important repte ja que els ecosistemes emprenedors són únics i irrepetibles.

## **UNIVERSITY ENTREPRENEURS AND SPINUPS: THE CASE OF STARTUPV, THE BUSINESS ECOSYSTEM AT THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA**

Presented by: Daniel Martínez Aceves

Directed by: Dr. Ignacio Gil Pechuán & Dr. José Millet Roig

### **Abstract:**

The format chosen to present this doctoral thesis is the compendium of publications. Each of the three selected articles provides new data to respond to the objectives and issues raised by the thesis: the characterization of the university entrepreneur and the firms that are generated by entrepreneurial university ecosystems. The compendium begins with a general analysis based on an international sample of 12 countries and 20,000 graduates, and ends with a particular case study of entrepreneurs linked to a local university ecosystem.

Describing the different characteristics that exist among young university entrepreneurs, self-employed workers and employees at an international level, as well as identifying their competences is the objective of the first article. The second contribution focuses on the gender-related differences among entrepreneurs, identifying their motivation for undertaking new enterprises and establishing their potential differences. The most significant differences in gender are closely related to conciliating work and personal/family life. Results from the third article show that universities can play a determining role in the generation of future high-growth firms. The study concludes that future research must contribute more data in order to continue to define a new concept in newly created firms: the spinup or university gazelle; a business founded at a university which is halfway between a startup and a spinoff company.

Universities are natural incubators for projects that can help to solve social challenges and improve society. The objective of future research in this sense, should be to improve our understanding and analysis of the common characteristics that can be extrapolated to other ecosystems, which implies a sizeable challenge given the unique, inimitable nature of entrepreneurial ecosystems.

# ÍNDICE GENERAL

## PREVIOS

- Agradecimientos	2
- Resumen	3
- Resum	4
- Abstract	5
- Índice general	6

## CAPÍTULO 1: INTRODUCCIÓN / OBJETIVOS

1. Antecedentes	9
2. Hipótesis y Objetivos	11
3. Estructura	12
4. Resumen Extendido de los Artículos	14
5. Otras publicaciones	18

## CAPÍTULO 2: PUBLICACIONES

Artículo 1: Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates	22
- Abstract	22
- Introduction	22
- Literature	24
- Data Set	25
- Results	26
- Conclusion	43
- References	44
Artículo 2: Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community	46
1. Abstract	46
2. Context and theoretical framework	47
3. Introduction to the research study	49
4. Motivations and challenges	50
5. Methodology and analysis	53
6. Results	55
7. Conclusions	64
8. Future research	66
9. References	67
Artículo 3: High Growth Firms at university business ecosystems: the birth of the spinup	75
1. Abstract	75
2. A theoretical framework of entrepreneurial ecosystems	76
3. High Growth Firms	78
4. Methodology	79
5. The case of StartUPV: the entrepreneurial ecosystem at the UPV	80
6. Conclusion	82
7. References	84

### **CAPÍTULO 3: DISCUSIÓN GENERAL DE LOS RESULTADOS**

- |                 |    |
|-----------------|----|
| 1. Introducción | 90 |
| 2. Resultados   | 90 |

### **CAPÍTULO 4: CONCLUSIONES**

- |                                    |     |
|------------------------------------|-----|
| 1. Introducción                    | 96  |
| 2. Hipótesis y conclusiones        | 96  |
| 3. Principales aportaciones        | 98  |
| 4. Futuras líneas de investigación | 100 |

### **BIBLIOGRAFÍA GENERAL**

106

### **ANEXOS**

- |                                 |     |
|---------------------------------|-----|
| 1. Renuncias de los coautores   | 110 |
| 2. Carta de aceptación          | 115 |
| 3. Artículos en revistas        | 117 |
| 4. Capítulos de libros          | 119 |
| 5. Participaciones en congresos | 122 |

# CAPITULO 1

INTRODUCCIÓN / OBJETIVOS



# 1. ANTECEDENTES

La OCDE en el documento "Entrepreneurship at a Glance 2015" destaca que el emprendimiento ha sido un término analizado ampliamente por la literatura existente aunque históricamente no se haya conseguido un consenso para alcanzar una definición única. En el año 2008, la OCDE establece una definición formal del emprendedor como "*aquella persona (propietaria de una empresa) que busca generar valor, mediante la creación o la expansión de una actividad económica, identificando y explotando nuevos productos, procesos o mercados*". En 2013, la Comisión Europea (en adelante CE) en su Plan de Acción sobre Emprendimiento 2020 destaca la importancia del emprendimiento señalando específicamente que "*Europa necesita más emprendedores para recuperar el crecimiento y un alto nivel de empleo*".

El Plan de Acción propuesto por la CE se basa en tres pilares:

1. Educar y formar en materia de emprendimiento para promover el crecimiento y la creación de empresas.
2. Reforzar las condiciones marco para los emprendedores, eliminando las actuales barreras estructurales y prestándoles apoyo en las fases cruciales del ciclo vital de la empresa.
3. Dinamizar la cultura del emprendimiento en Europa: crear una nueva generación de emprendedores.

Estimaciones de la CE ponen de manifiesto que las nuevas empresas, especialmente las PYME (pequeñas y medianas empresas), representan la fuente más importante de nuevos empleos, creando más de 4 millones de puestos de trabajo al año en Europa (estimación de la CE sobre datos de Eurostat 2009). A pesar de estos datos, los emprendedores se enfrentan a entornos y políticas de apoyo que, en muchos casos, son poco eficientes. Especialmente relevante es la dificultad que tienen las microempresas al no existir una legislación que se adapte a sus características propias, siendo en muchos casos consideradas en los mismos términos que empresas de mayor tamaño y circunstancias.

Una línea de investigación importante (Beugelsdijk & Noorderhaven, 2005) trató de definir si los emprendedores tienen características propias diferentes a las de otros grupos como, por ejemplo, los profesionales liberales y los autoempleados (abogados trabajando para bufetes, arquitectos en estudios, etc.). En este sentido, la Directiva 2005/36/CE de la Comisión Europea define las profesiones liberales *«En la medida en que estén reguladas, [...] son las que ejercen quienes, gracias a sus especiales cualificaciones profesionales, prestan personalmente, bajo su propia responsabilidad y de manera profesionalmente independiente, servicios intelectuales y conceptuales en interés del mandante y de la población en general»*. Teniendo en cuenta los estudios realizados hasta fecha, parece lógico pensar que, aun compartiendo muchas similitudes, los emprendedores, los profesionales liberales y los autónomos tienen características y perfiles diferentes.

Otra línea de investigación analiza las diferencias entre el emprendimiento nacido en las universidades y sus características propias. En un estudio reciente, Julià (2015) analiza el caso de 5 universidades públicas de la Comunidad Valenciana para poder caracterizar este tipo de emprendimiento universitario comparándolo con datos del conocido Informe GEM (Global Entrepreneurship Monitor) España elaborado en 2013 (Red Española de Equipos Regionales, G. E. M., 2014). Los resultados del estudio permiten concluir que, el emprendimiento universitario, muestra claramente una mayor calidad emprendedora en lo que se refiere al carácter innovador (doble de la media nacional), el uso de tecnologías avanzadas (prácticamente el doble también), la orientación internacional (6 veces superior) y la capacidad de creación de empleo (más del triple que la media nacional).

La OCDE busca insistentemente empresas definidas como de alto crecimiento, en adelante HGF (High Growth Firms). Las universidades pueden tener un papel realmente importante en, al menos, generar o tener como huéspedes a posibles y potenciales empresas de alto crecimiento. Empresas que se caracterizan por tener una facturación y creación de empleo muy superior al resto, pero lo más importante es que son empresas (OECD, 2010) que aumentan la productividad, generan nuevos empleos, aumentan la innovación y promueven la internacionalización de las empresas (OECD, 2013; Brown et al, 2014).

Además, las HGFs consiguen tener un efecto motivador para otros emprendedores (Mason et al, 2009; Du et al, 2013) e incluso favorecen la

creación de nuevas empresas, o por lo menos, aumentan la competitividad de los clúster locales (Feldman et al, 2005; Brown, 2011). También se destaca la importancia del término empresa gacela. En este caso, la definición se limita a empresas de alto crecimiento que, además, son jóvenes, o más específicamente, a empresas con menos de 5 años (Martínez, 2010). Conocer y adaptar las HGF a los espacios de incubación universitarios es un reto evidente.

Esta tesis parte de una visión general de la importancia del emprendimiento y se focaliza en el estudio de los emprendedores universitarios y en la relevancia o no, como en ocasiones recoge la literatura (Gómez Gras et al, 2008; Harrison and Leitch, 2010; Åsterbro and Bazzazian, 2011), que las universidades pueden tener como facilitadoras de los ecosistemas emprendedores. La CE en una de sus líneas maestras del Plan de Acción sobre Emprendimiento 2020, "Relanzar el espíritu emprendedor en Europa", refleja la importancia que le otorga a las universidades, destacando que el papel de la enseñanza superior en el emprendimiento va mucho más allá de la impartición de conocimientos para participar en ecosistemas, asociaciones y alianzas industriales. Actualmente, las empresas de alta tecnología y de crecimiento rápido se hallan, cada vez más, en el centro de las políticas de emprendimiento y las universidades son parte importante en éstas. Las directrices de la CE parecen claras: las universidades deben hacerse más emprendedoras (Gibb, 2009).

## 2. HIPÓTESIS Y OBJETIVOS

Una vez analizados los antecedentes de la investigación sobre el perfil de los emprendedores y sus empresas, a continuación se plantean las hipótesis de esta tesis:

### ✓HIPÓTESIS 1:

Los emprendedores tienen características y competencias diferentes a los autónomos y profesionales liberales.

### ✓HIPÓTESIS 2:

Entre los emprendedores existen diferencias de género en las motivaciones para emprender y en la forma de conciliar la vida laboral y profesional.

### ✓ HIPÓTESIS 3:

Los ecosistemas emprendedores universitarios favorecen la creación de futuras empresas de alto crecimiento por parte de los emprendedores universitarios alojados en ellos.

De las hipótesis planteadas se desprenden los siguientes objetivos específicos:

1. Describir las características diferenciales existentes entre los jóvenes emprendedores universitarios, los autoempleados y los trabajadores a nivel internacional.
2. Conocer y describir las competencias de los emprendedores universitarios.
3. Identificar las motivaciones que llevan a las emprendedoras y a los emprendedores a crear una empresa y ver si existen diferencias entre ellos.
4. Analizar las diferencias de género en la conciliación de la vida laboral y personal de los emprendedores.
5. Conocer el tipo de proyectos/empresas que generan los emprendedores universitarios analizando un caso práctico de un ecosistema emprendedor universitario.
6. Describir las posibilidades y retos que las universidades tienen como facilitadoras de ecosistemas de emprendimiento.

## 3. ESTRUCTURA

Es importante destacar que la presente tesis se estructura en una compilación de 3 artículos, 2 presentados en revistas científicas y uno pendiente de aprobación. Las publicaciones son independientes entre sí pero con un hilo conductor que va de los datos más generales e internacionales hasta el estudio de un caso concreto de buenas prácticas a nivel local. Además de estos artículos, y para dotar de mayor sentido y conexión a la tesis, también se recogen (anexadas) otras aportaciones científicas del doctorando.

La estructura de la tesis está conformada por los siguientes 4 capítulos:

- Capítulo 1: Introducción/Objetivos.
- Capítulo 2: Publicaciones.

- ✓ Artículo I: Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates.
  - ✓ Artículo II: Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community.
  - ✓ Artículo III: High Growth Firms at university business ecosystems: the birth of the spinup.
- Capítulo 3: Discusión general de los resultados.
  - Capítulo 4: Conclusiones.

El capítulo 1 comienza con los antecedentes de la investigación sobre el emprendimiento a nivel global y universitario, a nivel particular. Los antecedentes nos llevan a proponer las hipótesis de investigación y los objetivos de la tesis. Este capítulo ofrece un resumen extendido de los tres artículos objeto de análisis, aportando datos de la revista en la que han sido publicados y de su relevancia científica. También se listan otras aportaciones científicas del doctorando. El conjunto pretende dar sentido a la tesis como compendio por publicaciones.

El capítulo 2 recoge cada uno de los tres artículos de manera integral. En el *primer artículo*, se pretende dar respuesta a los siguientes objetivos antes descritos: describir las características diferenciales existentes entre los jóvenes emprendedores universitarios, los autoempleados y los trabajadores a nivel internacional y conocer y describir las competencias de los emprendedores universitarios. Para ello, se utiliza una muestra de más de 40.000 graduados de 12 países. Los resultados muestran el perfil del emprendedor universitario internacional con características y competencias diferentes frente a los autoempleados y los empleados por cuenta ajena. Además, el artículo deja claro que hay diferencias de género que requieren mayor investigación.

Estas diferencias de género nos encaminan hacia el objetivo del *segundo artículo*, analizar si existen diferencias de género en el ámbito del emprendimiento, especialmente en las motivaciones para emprender y en las dificultades que pueden existir a la hora de conciliar la vida laboral y personal.

Una vez conocido el perfil del emprendedor, el *tercer artículo* se centra en dar respuesta a la siguiente pregunta: ¿Qué tipo de empresas generan los emprendedores universitarios?. Para contestar a esta pregunta se han analizado los datos de un ecosistema emprendedor universitario seleccionado como *best practice* por la CE.

En el capítulo 3 se discuten los principales resultados de los artículos del compendio. Mientras que el capítulo 4 recoge las principales conclusiones y aportaciones de la tesis doctoral. Además, en este último capítulo se sugieren retos para las futuras investigaciones, especialmente en el campo específico de los emprendedores universitarios y las oportunidades que tienen las universidades como "acogedores" lugares para acompañar a sus alumnos en el viaje hacia el emprendimiento.

## 4. RESUMEN EXTENDIDO ARTÍCULOS

A continuación, se expone resumidamente cada uno de los artículos y se explica quiénes son los autores y los detalles de las revistas en que han sido aceptados.

### 4.1. Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates

Este artículo ha sido escrito por D. Daniel Martínez Aceves (Universitat Politècnica de València), José Ginés-Mora. (Universitat Politècnica de València) y Luis E.Vila (Universidad de Valencia).



Publicación: European Journal of Education.  
Volume 42, Issue 1, pages 99–117, March 2007

Factor de Impacto: 0.553

Editor: Blackwell Publishing Ltd.

DOI: 10.1111/j.1465-3435.2007.00285.x

ISSN: Online ISSN, 1465-3435 first published online: 19  
FEB 2007

La revista en la que se ha publicado el trabajo, *European Journal of Education*, es una publicación fundada en 1965. La revista ha publicado durante 50 años investigación de alta calidad. Tiene un factor de impacto de 0.553. En el ISI Journal Citation Reports el Ranking en 2014 es de 151/224 en Education y Educational Research. El artículo fue uno de los 20 más descargados en 2007, el año de su publicación.

La publicación analiza las diferencias que pueden existir entre emprendedores, autoempleados-autónomos y empleados (en el sector privado, público y ongs) utilizando una muestra de jóvenes universitarios europeos. Los datos forman parte del proyecto europeo CHEERS (Careers after Higher Education — A European Research Survey), la mayor encuesta representativa que compara la situación de los jóvenes graduados universitarios europeos (Schomburg & Teichler, 2005). Los estudiantes se graduaron en 1995 y se les encuestó en 1999, 4 años después de su graduación. Casi 40.000 graduados de 9 países de la UE (Italia, España, Francia, Austria, Alemania, Holanda, UK, Finlandia y Suecia), un EFTA país (Noruega), un país de la Europa Central y del Este en transición (República Checa) y un país, económicamente avanzado, de fuera de Europa (Japón) aportaron información en base a un cuestionario escrito. La muestra se redujo ya que algunos países no utilizaron la pregunta clave para la investigación, donde se preguntaba a los egresados si habían creado o no una nueva empresa. La muestra final es de 19.746 individuos (4% emprendedores, 5% autoempleados-autónomos, y 91% empleados (34% empleados públicos, 8% de ONGs y 49% empleados de empresas privadas). Utilizando las autoevaluaciones de los graduados se obtuvieron datos de diferente índole: antecedentes socio-biográficos, estudios, transición de la carrera al mundo laboral, primeros empleos, objetivos personales a nivel personal y laboral, valoración retrospectiva de la universidad, actuales trabajos y niveles de competencias.

#### **4.2. Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community**

Este artículo ha sido escrito por Helena Knorr (School of Business, Point Park University), M<sup>a</sup> Dolores Garzón Benítez (Universitat Politècnica de València) y Daniel Martínez Aceves (Universitat Politècnica de València).



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Factor impacto 2014: 0.765

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La revista en la que se ha publicado el trabajo es International Entrepreneurship and Management Journal, una publicación del Grupo Editorial Springer. La publicación está indexada Social Science Citation Index, Journal Citation Reports/Social Sciences Edition, SCOPUS, PsycINFO, INSPEC, EconLit, Google Scholar, ProQuest, ABS Academic Journal Quality Guide, Academic OneFile, Current Contents / Social & Behavioral Sciences, Gale, OCLC, SCImago, Summon by ProQuest. Tiene un factor de impacto (en el año 2014) de 0.765.

Teniendo como referencia los resultados del artículo anterior, en el que se evidencian diferencias en cuanto al género, el presente artículo focaliza la atención en las motivaciones para emprender desde una perspectiva de género. Partiendo de la base de que las mujeres tienen una presencia mucho más baja que los hombres en puestos de alta dirección y que esa tendencia no parece que vaya a cambiar, el estudio propone verificar si el origen de esas diferencias está en las dificultades que tienen las mujeres a la hora de conciliar la vida laboral y profesional o si, por el contrario, son percepciones estereotipadas.

Con este fin, se entrevistó y encuestó a 40 emprendedores (20 mujeres emprendedoras y 20 hombres emprendedores) de la ciudad de Valencia. Los



resultados muestran diferencias en la manera de afrontar la conciliación laboral y personal.

#### **4.3. High Growth Firms at university business ecosystems: the birth of the spinup**

Los autores de este artículo son Daniel Martínez Aceves (Universitat Politècnica de València), Ignacio Gil Pechuan (Universitat Politècnica de València) y José Millet Roig (Universitat Politècnica de València)



Publicación: Journal of Innovation and Entrepreneurship

Editor: Springer Open

Aceptado: en proceso de peer review

La revista está publicada bajo la marca de Springer Open, el artículo está actualmente en proceso de peer-reviewed. La publicación está indexada en Google Scholar, DOAJ, OCLC, Summon ProQuest.

Una vez caracterizado el perfil del emprendedor y sus diferencias en cuanto a competencias y motivaciones para emprender, el siguiente artículo se adentra en la descripción y caracterización de las empresas creadas por los emprendedores. Analizando las empresas de alto crecimiento en entornos universitarios.

La importancia de los ecosistemas de emprendimiento como motores del crecimiento económico es por todos reconocida (OCDE 2015). Conocer este tipo de ecosistemas y describir cuál es el papel que tienen las universidades es uno de los objetivos de este artículo.

Para alcanzar este objetivo, se analiza un caso práctico de un ecosistema emprendedor universitario seleccionado como *best practice* por la Comisión Europea en 2015. Los datos descriptivos se centran en 43 empresas y se analiza su facturación, nivel de empleo generado, internacionalización y financiación para compararlo con los conceptos de empresas de alto crecimiento (High Growth Firms HGFs) o gacelas empresariales. Los resultados muestran a las universidades como instituciones que juegan un papel fundamental en la creación de empresas de alto crecimiento. El futuro de la investigación puede dirigirse hacia la caracterización de los proyectos que nacen en las universidades y tienen un crecimiento significativo.

## 5. OTRAS PUBLICACIONES

A continuación, se detallan otras publicaciones y participaciones en congresos que, aunque no se utilizan como parte del compendio, han servido para el desarrollo investigador del doctorando.

### 5.1 Artículos en revistas (ver anexo 3)

- Las competencias de los graduados universitarios europeos. Panorama Social, (6), 10-21. 2007

### 5.2 Capítulos de Libros (ver anexo 4)

- Y TÚ..., ¿Innovas o Abdicas?  
Editorial Universitat Politècnica de valència. Año de publicación 2014  
Capítulo 18: Plan de Emprendimiento para la Universidad (pág. 274-304)
- Informe CyD 2007  
Editorial Fundación Conocimiento y Desarrollo. Año de publicación 2008  
Capítulo: El mercado de trabajo y las competencias profesionales de los jóvenes graduados: resultados del Proyecto REFLEX (pág. 387-410)

### **5.3 Participaciones en Congresos** (ver anexo 5)

- A Self-Assessment Tool For Business Models And Automatic Generation Of Business Opportunities  
Congreso: Third Conference of the CARPE Consortium on Applied Research and Professional Education (Manchester, 04-06/11/2013)
  
- Actividades para dinamizar el emprendimiento y la innovación entre el alumnado. La experiencia del Instituto IDEAS-UPV  
Congreso: 2º Congrés educació tecnològica CEDUTEK (Valencia, 24/2/2012)
  
- Young entrepreneurs innovate in Europe, what makes them different?  
Congreso: INBAM 2010: Creativity and Innovation in an International Context (Valencia, 01/06/2010)
  
- The profile of Young entrepreneurs  
Congreso: 5th CONIDEAS Conference (Valencia, Nov.2008)
  
- New Frontiers in Higher Education management Models  
VALENCIAGLOBAL2006 (Valencia 16 nov.2006)

### **5.4 Tabla resumen**

En la tabla I puede verse un resumen gráfico con todas las aportaciones científicas del doctorando (artículos, capítulos de libros y participaciones en congresos) vinculadas a cada hipótesis y a cada objetivo.

### HIPOTESIS 1: LOS JÓVENES EMPRENDEDORES UNIVERSITARIOS TIENEN CARACTERÍSTICAS Y COMPETENCIAS DIFERENTES A LOS AUTÓNOMOS Y PROFESIONALES LIBERALES

ARTÍCULOS, CAPITULOS DE LIBROS Y PARTICIPACIONES EN CONGRESOS	Artículo: Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates	Artículo: Las competencias de los graduados universitarios europeos	Capítulo libro: Informe CyD 2007  El mercado de trabajo y las competencias profesionales de los jóvenes graduados: resultados del Proyecto REFLEX	Congreso: INBAM 2010  Young entrepreneurs innovate in Europe, what makes them different?	Congreso: 5th CONIDEAS Conference  The profile of Young entrepreneurs	Congreso: ValenciaGlobal2006.  New Frontiers in Higher Education management Models
<b>OBJETIVO 1</b>  Describir las características diferenciales existentes entre los jóvenes emprendedores universitarios, los autoempleados y los trabajadores a nivel internacional	√			√	√	
<b>OBJETIVO 2</b>  Conocer y describir las competencias de los emprendedores universitarios	√	√	√	√	√	√

### HIPOTESIS 2: ENTRE LOS EMPRENDEDORES EXISTEN DIFERENCIAS DE GÉNERO EN LAS MOTIVACIONES PARA EMPRENDER Y EN LA FORMA DE CONCILIAR LA VIDA LABORAL Y PROFESIONAL

ARTÍCULOS, CAPITULOS DE LIBROS Y PARTICIPACIONES EN CONGRESOS	Artículo: Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community	Artículo: Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates			
<b>OBJETIVO 3</b>  Identificar las motivaciones que llevan a las emprendedoras y a los emprendedores a crear una empresa y ver si existen diferencias.	√	√			
<b>OBJETIVO 4</b>  Analizar las diferencias de género en la conciliación de la vida laboral y personal de los emprendedores.	√				

### HIPÓTESIS 3: LOS ECOSISTEMAS EMPRENDEDORES UNIVERSITARIOS FAVORECEN LA CREACIÓN DE FUTURAS EMPRESAS DE ALTO RENDIMIENTO POR PARTE DE LOS EMPRENDEDORES UNIVERSITARIOS ALOJADOS EN ELLOS

ARTÍCULOS, CAPITULOS DE LIBROS Y PARTICIPACIONES EN CONGRESOS	Artículo: High Growth Firms at university business ecosystems: the birth of the spinup	Capítulo libro: Y Tú..., ¿Innovas o Abdicas?.  Plan de Emprendimiento para la Universidad	Congreso: 2º Congrés educació tecnològica CEDUTEC: Activitats per dinamitzar el emprendiment i la innovació entre el alumnado. La experiència del Institut IDEAS-UPV	Congreso: Third Conference of the Consortium on Applied Research and Professional Education CARPE:  A Self-Assessment Tool For Business Models And Automatic Generation Of Business Opportunities
<b>OBJETIVO 5</b>  Conocer el tipo de proyectos/empresas que generan los emprendedores universitarios analizando un caso práctico de un ecosistema emprendedor universitario	√	√		
<b>OBJETIVO 6</b>  Describir las posibilidades y retos que las universidades tienen como facilitadoras de ecosistemas de emprendimiento	√	√	√	√

TABLA I. Aportaciones científicas, hipótesis y objetivos

# CAPITULO 2

## PUBLICACIONES CIENTÍFICAS

### **Artículo 1:**

Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates.

### **Artículo 2:**

Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community.

### **Artículo 3:**

High Growth Firms at university business ecosystems: the birth of the spinup.

# ARTÍCULO 1 (adaptado para tesis doctoral)

## **Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates**

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### **Abstract**

We shall analyse the different characteristics of entrepreneurs, the self-employed, and employees in public, private and non-profit organisations, based on a sample of young European higher education graduates. Using graduates' self-assessment from a survey, several sets of characteristics such as social-demographic traits, educational and occupational experiences and levels of competences are considered. A descriptive analysis shows, first, that graduates who start their own business have different profiles in relation to elements leading to their occupational decision after graduation; and, second, that labour market status achieved by entrepreneur graduates implies relatively more demanding activities, higher earnings and higher job satisfaction than non-entrepreneur graduates.

### **Introduction**

There is a general acceptance of the increasing importance of entrepreneurs in the creation of jobs in the new economy (Folster, 2000), but there are few exhaustive studies on entrepreneurship activities. Entrepreneurship is often considered an ill-defined concept (OECD, 1998; Beugelsdijk & Noorderhaven, 2005). OECD recognises the difficulty to evaluate and measure the impacts of entrepreneurial activities (OECD, 2005) and it is not easy to define who is an 'entrepreneur'. In the literature, entrepreneurs have been defined as those who create companies, contribute with new products to the market, or develop new processes of production (Stiglitz & Driffill, 2000; Nijkamp, 2003). Sometimes, however, the concept of entrepreneur

seems to be mixed up with that of self-employment, although they are rather different. Self-employment is a label that is regularly used to include various forms of participation in economic activity: own-account workers, contractors, employers, members of cooperatives, independent professionals and even unpaid family workers. Nonetheless, it may be regarded either as a survival strategy for those who could not find other means of earning an income or as a desire to be one's own boss, evidencing a hint of the entrepreneurial spirit (OECD, 2006).

The European Commission also encourages entrepreneurial activity, as it has been recognised in the integrated Luxembourg process: 'Entrepreneurial activity underlies the creation of wealth and employment (. . .) Europe needs more entrepreneurs, to raise the number of competitive enterprises in Europe' (European Commission, 2000). Consequently, the Commission's enterprise policy will promote entrepreneurship as a valuable and productive life skill. Lifelong employment in one company is no longer the norm and may be even less so in the future. One way to meet this challenge is to consider starting one's own business. As the employee culture becomes less dominant, the entrepreneurial culture must be fostered. Moreover, entrepreneurship appears as the main driving force of economic and social development in an increasingly global environment.

Beugelsdijk and Noorderhaven (2005) consider the notion of self-employment as somewhat broader than that of entrepreneur. They use the examples of the agricultural sector and the small family firms that pass from parents to children. In labour market surveys, such individuals are registered as self-employed, but it is not clear if they are genuine entrepreneurs. Something similar applies to independent professionals such as medical doctors, architects, lawyers, etc.; they are not wage earners but, while some may have started a company, others work for firms that are ruled by third persons. In the empirical analysis of entrepreneurship it is important to consider these aspects because too often the surveys classify true entrepreneurs, independent professionals and other self-employed in the same category.

Within this framework, and using a large sample of young higher education graduates from EU countries, this article explores some of the elements leading to the occupational decision to become entrepreneurs, and some of the elements emerging from the associated labour market status. We shall focus on educational and economic differences between entrepreneurs, non-entrepreneur self-employed people and employees, taking into account socio-biographical and cross-cultural differences.

The structure of this article is as follows: section 2 briefly reviews the literature on entrepreneurs and the self-employed, section 3 presents the data set and establishes a

criterion for identifying entrepreneur graduates, and section 4 shows the main results. We conclude with a summary and some implications for different social agents derived from the analysis.

## **Literature**

A relevant body of literature on entrepreneurial activities reveals that there is a consistent interest to identify the factors that lead an individual to become an entrepreneur. The evidence shows that these are basically the same (Delmar & Davidsson, 2000). Factors such as age, gender, professional background, work experience, and educational and psychological profiles have been frequently analysed. In general, the results indicate that being a man aged between 25 and 40 with self-employed parents, a higher education degree, need for achievement, risktaking propensity, and preference for innovation are the factors that favour the decision to undertake entrepreneurial activities (Storey, 1994; Reynolds, 1997; Stewart *et al.*, 1998; Delmar & Davidsson, 2000).

Another area of interest in the entrepreneurship research is the relation between entrepreneurs, higher education and young graduates. The idea of becoming an entrepreneur is more and more attractive to students because it is seen as a valuable way of participating in the labour market without losing one's independence. In order to explain this increasing interest it is necessary to analyse the change in student values regarding the traditional firms and companies. The most common values amongst graduates facing the new labour market are linked to those of the self-employed: independence, challenge and self-realisation (Lüthje & Franke, 2003). Some studies analyse the attitudes of students towards entrepreneurship and their intention to launch a business. The main limitation of these studies is that they are based on samples of professionals, which complicates the comparison and generalisation of results (Lüthje & Franke, 2003). Cross-cultural studies have attempted to define latent or nascent entrepreneurs (Delmar & Davidsson, 2000; Blanchflower *et al.*, 2001; Arenius & Minniti, 2005) or the motivations to become self-employed (Colombo & Desmastro, 2001; Smallbone & Welter, 2001). Literature on entrepreneurship activities indicates that selfemployment and its determinants differ according to country (Blanchflower,

2000). A recent study in 13 countries based on data collected in 1990 analysed the personality characteristics of the self-employed. The authors empirically demonstrated that they were different from the rest of population because they were more individually oriented (Beugelsdijk & Noorderhaven, 2005). The main limitation of this study is the impossibility to differentiate entrepreneurs from the



selfemployed. The concept of entrepreneur is not clearly defined. The authors chose individuals who declared themselves as self-employed but they could not identify in the sample those individuals who were entrepreneurs. In sum, a general conclusion on the entrepreneurial traits research is the difficulty to empirically differentiate entrepreneurs from the rest of population (Mueller & Thomas, 2000; Beugelsdijk & Noorderhaven, 2005).

### **Data Set**

In this article, we shall analyse data from CHEERS (Careers after Higher Education — A European Research Survey), a major representative survey that compares the situation of young European higher education graduates (Schomburg & Teichler, 2005). Graduates of 1995 were surveyed in 1999, four years after graduation. Almost 40,000 graduates from 9 EU countries (Italy, Spain, France, Austria, Germany, the Netherlands, UK, Finland, Sweden), one EFTA country (Norway), one of the Central and Eastern European countries in transition (the Czech Republic) and one economically advanced country outside Europe (Japan) provided information by means of a written questionnaire. The respondents provided data on their socio-biographical background, study paths, transition from higher education to employment, early career, links between study and employment, self-assessment of their life goals and jobs prospects, as well as their retrospective view of higher education. The relevant question for our definition of entrepreneur was not asked in the questionnaires of several countries which were not included in our analysis.

For the purpose of this article, we selected only those graduates who declared themselves to be 'employed' or 'self-employed' in their answer to the question 'Please state your current kind of employer/institution'. The subgroup of employees was further divided into graduates working for public, private non-profit, and for-profit private organisations. To identify entrepreneurs we selected, within the subgroup of the self-employed, those graduates who answered 'I established a new firm/office' to the question 'If you are self-employed: Which of the following characteristics are applicable to you?' The valid sample contains 19,746 records which are classified as follows: 4% entrepreneurs according to our definition, 5% otherwise self-employed, and 91% employees (34% public employees, 8% nonprofit organisation employees, 49% working for a private employer).

The graduates obtained their degree four years before the interview. They were asked about their current situation and experience as higher education students. Selecting individuals who were currently working as entrepreneurs and not those who were trying to create a company but had not yet done so, or those who did it but

went out of business, gave us the opportunity to work in real time. Another relevant aspect was the sample size from different countries which allowed for cross-country comparisons, as well as an analysis of the relations between the different groups participating in the labour market. Our data allowed us to examine and extend the existing results on entrepreneurs with new variables such as competences. Results in the following section differentiate entrepreneurs from the self-employed and by extension from the rest of employees in order to analyse the elements leading to a given choice of participation in the labour market, as well as the consequences emerging from the labour market status associated with the chosen form of participation.

## **Results**

Using graduates' self-assessment about forms of labour market participation, results show that they have rather different profiles regarding both the elements leading to and those emerging from their occupational decisions after graduation.

### ***Elements Influencing the Decision***

In this section, we will review some aspects that influence the choice of young graduates' careers. We will analyse social-demographic traits (gender, country), educational experience (entrance grades, years of previous schooling, years spent studying, study activities and extra-curricular activities, further education/training, modes of teaching and learning, and study provision and conditions), and competences (acquired competences).

#### *Social-demographic Traits*

##### Gender

Table I shows the percentages by gender of each form of labour market participation included in our sample. Amongst the entrepreneurs surveyed, 66% are male, almost double the percentage of females (34%). This pattern is less significant in the case of other self-employed people (54% male, 46% female) and disappears with employees. Within the employees group, there are more women working in the public sector and for non-profit organisation than in the private sector. But men are predominant in the private sector. This confirms that entrepreneurship activities are more related to males, as the literature reveals. On the other hand, the greater proportion of women amongst employees who work for public employers and non-profit organisations is remarkable. The explanation of these differences deserves further and specific research.

TABLE I. Type of employment by gender

	Male		Female		Total
		%		%	
Entrepreneurs	491	66	251	34	742
Self-employed	511	54	434	46	945
Employees	9,027	50	8,961	50	17,988
Public employees	2,865	41	4,050	59	6,915
Non-profit organisation	490	32	1,024	68	1,514
Private employees	5,673	59	3,888	41	9,561
Total	10,030	51	9,647	49	19,677

TABLE II. Type of employment by country

	IT	ES	FR	AT	DE	NL	UK	FI	Total
Entrepreneur	189	92	18	109	124	95	40	75	742
% of the total sample	25	12	2	15	17	13	5	10	100
% of the country sample	8	4	1	5	4	4	1	3	4
Self-employed	275	103	29	110	212	85	91	46	951
% of the total sample	29	11	3	12	22	9	10	5	100
% of the country sample	11	5	1	6	7	3	3	2	5
Employees	1,947	1,969	1,969	1,765	2,752	2,489	2,820	2,342	18,053
% of the total sample	11	11	11	10	15	14	16	13	100
% of the country sample	81	91	98	89	89	93	96	95	91
Public employees	564	645	708	652	1,172	773	1,086	1,341	6,941
% of the total sample	8	9	10	9	17	11	16	19	100
% of the country sample	23	30	35	33	38	29	37	54	34
Non-profit organisation	84	87	127	209	150	553	181	134	1,525
% of the total sample	6	6	8	14	10	36	12	9	100
% of the country sample	3	4	6	11	5	21	6	5	8
Private employees	1,299	1,237	1,134	905	1,430	1,163	1,553	867	9,588
% of the total sample	14	13	12	9	15	12	16	9	100
% of the country sample	54	57	56	46	46	44	53	35	49
Total	2,411	2,164	2,016	1,984	3,088	2,669	2,951	2,463	19,746
% of the total sample	12	11	10	10	16	14	15	12	100
% of the country sample	100	100	100	100	100	100	100	100	100

Country

Table II shows the distribution by country of the young European graduates. It must be stressed that the number of self-employed people is not necessarily consistent by country. In some cases, it could be related more directly to the kind of labour statute of certain professions (lawyers, physicians, etc.) than to personal preferences.

It shows that Italian graduates have the highest rate of entrepreneurs and selfemployed people. At the same time, it is the country with the lowest number of employees working for non-profit organisations. Spain has the highest percentage of young graduates employed by private companies. France and the UK share the lowest rate of entrepreneurs amongst their young graduates. In The Netherlands, the percentage of graduates working for non-profit organisations is very high, probably because of the definition of a non-profit organisation in this country. Finally, the high percentage of graduates in the public sector (in contrast to the private sector) in Finland is remarkable.

#### *Educational Experience*

Table III shows that self-employed graduates had, on average, the lowest entrance grades into higher education. In addition, they spent more time to complete their schooling (primary and secondary). In contrast, the highest marks go to employees. They needed less time to enter higher education. The case of entrepreneurs

TABLE III. Type of employment by entrance grades to higher education and previous years of schooling. Marks runs from 1 (Low) to 3 (High)

	Rating of grades		Years of schooling	
	Mean	SD	Mean	SD
Entrepreneurs	2.06	0.71	12.8	1.04
Self-employed	2.02	0.70	12.8	1.02
Employees	2.07	0.71	12.7	1.06
Public employees	2.12	0.70	12.7	1.06
Non-profit organisation	1.98	0.70	12.7	1.20
Private employees	2.05	0.72	12.7	1.04

is remarkable: they took longer to complete their studies than employees, but had similar marks.

Analysing the group of employees, those who worked for a public employer obtained the highest mark on average and were the quickest to complete their primary and secondary education. Private employees and entrepreneurs shared similar characteristics in their marks and years of schooling. These data suggest a possible pattern emerging from pre-higher education behaviour that can be expressed in a very simplistic way as follows: 'good' students (higher marks and lower duration) will become public employees. Nevertheless, entrepreneurs (good marks but longer duration) have a certain tendency towards 'dispersion' (more time during previous studies).

#### *Years Spent in Higher Education*

Table IV presents the scores of recent graduates related to the following question: 'How long did you study in higher education to earn the degree you were awarded and what period is required normally/by law?' Entrepreneurs and the selfemployed chose longer studies and needed more time to complete them, with the highest percentages of over-duration in their studies (37%–38% more than required). Employees, particularly graduates working in the public sector, spent less time to complete their studies (taking into account the years of actual study and years required by law). Again, results suggest different study patterns between entrepreneurs and employees, especially public sector employees. Entrepreneurs chose more challenging studies, but did not complete them very rapidly.

TABLE IV. Type of employment by years and duration of studies

	Years actually studied		Years normally/by law required		Over duration of studies Percentage
	Mean	SD	Mean	SD	
Entrepreneurs	5.96	2.29	4.36	0.88	37
Self-employed	5.88	2.44	4.25	0.88	38
Employees	4.96	2.05	4.03	1.00	23
Public employees	4.90	2.20	4.06	1.08	21
Non-profit organisation	4.79	2.05	3.94	1.01	22
Private employees	5.03	1.93	4.02	0.93	25

*Study Activities and Extra-curricular Activities*

Table V shows the number of hours in different study activities during a regular period of lectures. We observed in Table IV that entrepreneurs and the selfemployed needed more time to finish their studies, since they spent part of their time on other activities. Analysing these activities in Table V, we observe that entrepreneurs differ from employees in the pattern of activities. They spend more time working to acquire professional experience, more time in extra curricular activities, more time in other study activities and less time attending lectures. Public employees and non-profit organisation employees do not show this kind of curiosity for extra-curricular activities or other study activities. This suggests that the study period offered the opportunity to acquire supplementary skills. Again, a different pattern emerges: future entrepreneurs spend more time in 'irregular' activities and less time in passive activities, such as attending lectures.

TABLE V. Type of employment by hours per week in different study activities

	Major subjects: attending lectures		Major subjects: other study activities		Extracurricular activities		Employment	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Entrepreneurs	16.7	10.7	16.2	11.7	5.2	6.2	8.0	11.7
Self-employed	16.1	10.0	16.9	12.2	5.1	6.1	5.8	9.3
Employees	17.6	10.3	14.8	10.8	4.9	5.8	5.9	9.9
Public employees	16.6	10.2	14.4	10.9	4.5	5.7	6.5	10.8
Non-profit organisation	15.3	9.7	13.3	9.7	4.2	5.3	7.5	10.7
Private employees	18.7	10.3	15.4	10.8	5.3	5.9	5.3	9.1

### *Further Education and Training*

Table VI shows the percentages of graduates who undertake further education and training after graduation. Almost half the self-employed graduates (48%) had undertaken further education. The percentage of entrepreneurs (44%) is also quite

TABLE VI. Percentage of graduates taking further education or training, by type of employment

	Total
Entrepreneurs	44
Self-employed	48
Employees	34
Public employees	40
Non-profit organisation	33
Private employees	28

high. Employees show low percentages, particularly those working for private companies (28%). Looking at the percentages analysed above, it seems plausible to think that entrepreneurs and the self-employed are facing the requirements of the new knowledge society which gives more importance to continuing learning.

### *Modes of Teaching and Learning*

Table VII shows the graduates' answers to the question (on a 5-point scale, from 1 'not at all' to 5 'to a very high extent'): 'To what extent were the following modes of teaching and learning emphasised by your higher education institution and its teachers?'. There are no great differences with respect to the prevailing modes of teaching and learning perceived. There is a coincidence amongst the three groups analysed in the highest and lowest scores. The highest score is for 'theories, concepts or paradigms' and the lowest for 'direct acquisition of work experience'. Young graduates perceive that their institutions emphasise modes of teaching that focus on general concepts, giving high importance to theories and paradigms. These institutions do not give their students direct acquisition of work experience.

To evaluate the study provision and study conditions of the higher education institution Table VIII shows the scores of the graduates in our sample to the question: 'How do you rate the study provision and study conditions you experienced in the course of study in

which you graduated?'. There is a general coincidence amongst entrepreneurs, the self-employed and employees, also it happens with modes of teaching and learning, assessing the highest and lowest items of study provisions. In this case, the highest score is for 'Variety of courses offered' and the lowest is for 'Provision of work placements and other work experience'. It is also remarkable that the greatest differences between entrepreneurs and employees are found in 'Practical emphasis of teaching and learning' and 'Provision of work placements and other work experience'. The scores on average of the entrepreneur group are lower than for the group of employees.

#### *Competences at Time of Graduation (acquired competences)*

Table IX shows the scores of the acquired competences amongst the graduates surveyed with the averages of the question: 'State the extent to which you had the following competences at time of graduation' (on a 5-point scale, from 1 'not at all' to 5 'to a very high extent'). The three groups gave the highest score to the competence 'learning abilities' and the lowest to 'negotiating'. Main differences between entrepreneurs and the self-employed are observed in leadership, working under pressure, analytical competences, working in a team, taking responsibilities and working independently. In these competences the scores of entrepreneurs are much higher than those of the self-employed. Comparing entrepreneurs with employees, the most significant differences (higher average for entrepreneurs) can be appreciated in leadership and taking responsibilities. On the other hand, the group of employees shows higher scores on average than entrepreneurs in time management (especially public employees), computer skills (especially private employees) and work in a team (especially non-profit organisation employees). The self-employed evaluate more positively than entrepreneurs the time management competence. Leadership and taking responsibilities (decisions) are two competences acquired by entrepreneurs at the time of graduation that allow us to differentiate them from the rest of graduates surveyed. In the same sense, but related with the lowest acquired competence by entrepreneurs, we note time management.



TABLE VII. Assessment of modes of teaching and learning by type of employment

	Entrepreneurs		Self-employed		Employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Writing a thesis	3.73	1.37	3.73	1.44	3.66	1.28	3.49	1.36	3.71	1.20	3.68	1.27
Theories, concepts or paradigms	3.97	1.00	3.88	0.99	3.97	0.91	3.98	0.93	3.97	0.86	3.97	0.89
Independent learning	3.62	1.19	3.59	1.18	3.64	1.08	3.65	1.10	3.72	1.04	3.61	1.08
Regular class attendance	3.17	1.17	3.21	1.19	3.25	1.19	3.32	1.23	3.28	1.12	3.20	1.18
Project and problem-based learning	2.70	1.31	2.54	1.25	2.78	1.19	2.65	1.16	2.76	1.19	2.82	1.18
Freedom to choose courses	3.06	1.29	3.14	1.29	3.15	1.25	3.05	1.28	3.08	1.27	3.25	1.20
Direct acquisition of work experience	2.13	1.28	1.99	1.24	2.26	1.26	2.29	1.27	2.48	1.33	2.08	1.18
Teacher as main source of information	2.92	1.09	3.06	1.04	3.12	1.00	3.17	1.03	3.13	0.94	3.08	0.98
Facts and instrumental knowledge	3.29	1.22	3.34	1.22	3.49	1.08	3.52	1.10	3.54	1.02	3.38	1.10
Regular assessment of acad. Progress	2.28	1.25	2.30	1.19	2.51	1.21	2.54	1.23	2.46	1.21	2.43	1.18
Attitudes and socio-communic. Skills	2.48	1.20	2.56	1.19	2.73	1.18	2.78	1.18	3.09	1.26	2.60	1.13

TABLE VIII. Assessment of study provision and conditions by type of employment

	Entrepreneurs		Self-employed		Employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Opportunity to choose courses	3.00	1.19	3.01	1.18	3.13	1.17	3.01	1.20	3.06	1.15	3.22	1.14
Variety of courses offered	3.28	1.01	3.34	0.97	3.49	0.98	3.42	1.01	3.50	0.98	3.52	0.96
Research emphasis of learning	2.40	1.21	2.30	1.11	2.61	1.16	2.64	1.17	2.73	1.16	2.51	1.13
Teaching quality	3.09	0.94	3.21	0.94	3.30	0.89	3.29	0.93	3.30	0.88	3.30	0.89
Practical emphasis of learning	2.47	1.22	2.39	1.19	2.77	1.13	2.76	1.15	2.86	1.09	2.69	1.11
Provision of work placements	2.17	1.25	2.03	1.18	2.49	1.31	2.49	1.32	2.68	1.31	2.36	1.27

TABLE IX. Assessment of competences at time of graduation (acquired competences) by type of employment

	Entrepreneurs		Self-employed		Employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Learning abilities	4.06	0.81	4.08	0.80	4.14	0.76	4.14	0.76	4.11	0.76	4.15	0.76
Working independently	3.93	1.05	3.83	1.04	3.94	0.94	3.99	0.95	4.03	0.90	3.90	0.93
Critical thinking	3.80	1.00	3.85	0.92	3.78	0.92	3.81	0.93	3.90	0.87	3.75	0.92
Written communication skill	3.79	0.97	3.77	0.95	3.84	0.91	3.91	0.90	3.94	0.88	3.78	0.91
Analytical competencies	3.70	0.92	3.57	0.93	3.68	0.91	3.64	0.92	3.64	0.92	3.71	0.89
Oral communication skill	3.69	1.00	3.72	1.00	3.63	0.98	3.72	0.97	3.69	0.93	3.56	0.99
Working under pressure	3.60	1.18	3.45	1.16	3.51	1.09	3.58	1.08	3.55	1.05	3.44	1.09
Problem-solving ability	3.56	1.01	3.47	0.92	3.61	0.89	3.62	0.89	3.63	0.89	3.60	0.89
Taking responsibilities, decision	3.53	1.12	3.43	1.05	3.39	1.01	3.46	1.02	3.56	1.01	3.32	1.00
Working in a team	3.50	1.06	3.39	1.04	3.60	1.03	3.58	1.06	3.73	1.03	3.60	1.01
Cross-disciplinary knowledge	3.48	0.95	3.41	0.87	3.42	0.86	3.44	0.88	3.36	0.87	3.42	0.85
Planning, co-ordinating, organising	3.18	1.13	3.11	1.10	3.16	1.03	3.20	1.04	3.29	1.01	3.11	1.02
Time management	3.16	1.10	3.29	1.10	3.38	1.04	3.46	1.04	3.47	1.02	3.30	1.04
Leadership	2.96	1.18	2.81	1.12	2.82	1.07	2.84	1.09	2.88	1.11	2.80	1.05
Foreign language proficiency	2.94	1.21	2.92	1.04	2.97	1.13	2.92	1.16	2.89	1.23	3.01	1.11
Computer skills	2.83	1.20	2.68	1.14	3.00	1.13	2.85	1.13	2.87	1.05	3.13	1.13
Negotiating	2.68	1.18	2.68	1.10	2.63	1.07	2.73	1.09	2.78	1.05	2.52	1.04

### ***Elements Emerging from the Decision***

Now that we have described the elements that influence the occupational decision after graduation, we will analyse the elements that are consequences of this decision, since they are associated with the graduates' current position. Elements such as competences (required competences), job characteristics (income, average working hours), and work orientations (job satisfaction, motivation to work and related characteristics of the professional situation, by type of employment) will be taken into account.

#### *Competences*

Table X presents the average scores of required competences as perceived by the young graduates. We use data from the following question: 'To what extent are the following competences required in your current work?' (on a 5-point scale: from 1 'not at all' to 5 'to a very high extent'). The entrepreneur's group, as well as the self-employed, show higher scores on average in the following required competences: working independently and taking responsibilities (decision). Compared with the self-employed, the greatest differences can be observed in planning, coordinating, and organising, analytical competences, leadership and negotiating. The competence with the greatest differences between entrepreneurs and employees is negotiating (public employees 3.51, entrepreneurs 4.13). Others are: working independently, taking responsibilities (decisions), critical thinking and leadership. Employees perceive working in a team much more as a required competence. For example, graduates working for non-profit organisations score on average 4.31 and entrepreneurs only 3.89. If we analyse Tables X and XI together, it is interesting to note that the differences between entrepreneurs, the self-employed and employees are higher regarding required competences than acquired ones. In both tables the highest scores are for entrepreneurs, followed by the self-employed and finally the employees. The entrepreneur's self-assessment about required and acquired competences seems to draw a constant pattern: to become an entrepreneur it is important to know that entrepreneurs are more demanded than the rest of the graduates of our sample. It means that those graduates who are thinking about becoming entrepreneurs need to bear in mind the importance of developing a high level of competences to feel well prepared to use them.

#### *Job characteristics*

Income

Table XI shows the annual gross income of recent graduates from their current major job (excluding overtime and extra payments). We observe that the highest earnings correspond to the group of entrepreneurs comparing them with selfemployed and the average of employees. The differences amongst the graduates surveyed are large. Analysing in detail the groups of employees, the highest

TABLE X. Assessment of required competences by type of employment

	Entrepreneurs		Self-employed		Employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Working independently	4.62	0.64	4.48	0.76	4.22	0.94	4.26	0.94	4.41	0.81	4.17	0.95
Taking responsibilities, decision	4.56	0.69	4.34	0.85	4.19	0.91	4.20	0.93	4.31	0.82	4.17	0.91
Problem-solving ability	4.49	0.65	4.26	0.84	4.25	0.83	4.21	0.85	4.27	0.78	4.27	0.82
Oral communication skills	4.40	0.80	4.26	0.90	4.26	0.85	4.34	0.83	4.29	0.79	4.20	0.88
Working under pressure	4.40	0.84	4.29	0.91	4.27	0.91	4.18	0.98	4.21	0.92	4.34	0.86
Planning, coordinating, organising	4.37	0.81	4.05	0.97	4.12	0.94	4.07	0.98	4.24	0.88	4.14	0.92
Time management	4.28	0.82	4.22	0.86	4.20	0.85	4.17	0.89	4.23	0.80	4.22	0.84
Analytical competences	4.16	0.85	3.84	1.04	3.91	0.98	3.86	1.00	3.87	0.96	3.96	0.97
Negotiating	4.13	0.97	3.88	1.11	3.65	1.17	3.51	1.22	3.77	1.08	3.72	1.15
Critical thinking	4.12	0.91	3.97	1.00	3.83	1.01	3.86	1.03	3.98	0.93	3.78	1.00
Written communication skills	4.07	0.99	3.92	1.07	4.00	0.98	4.10	0.95	4.05	0.92	3.92	1.01
Learning abilities	4.06	0.89	3.96	0.99	3.99	0.91	3.99	0.93	3.92	0.91	4.00	0.90
Working in a team	3.89	1.10	3.72	1.12	4.16	0.93	4.13	0.97	4.31	0.89	4.16	0.91
Cross-disciplinary knowledge	3.85	0.99	3.66	1.06	3.63	1.03	3.69	1.02	3.65	1.02	3.59	1.03
Computer skills	3.85	1.13	3.46	1.23	3.76	1.13	3.53	1.16	3.48	1.15	3.96	1.07
Leadership	3.78	1.06	3.49	1.19	3.51	1.16	3.47	1.20	3.56	1.15	3.53	1.13
Foreign language proficiency	2.79	1.33	2.67	1.30	2.74	1.41	2.58	1.38	2.39	1.34	2.92	1.42

TABLE XI. Annual gross income by type of employment

Income — major activity €		
	Mean	SD
Entrepreneurs	26,774	22,434
Self-employed	23,122	19,408
Employees	25,353	15,597
Public employees	23,101	12,984
Non-profit organisation	21,622	12,447
Private employees	27,564	17,329

earnings are for graduates working for a private employer (exceeded even the income of entrepreneurs). It is somewhat surprising that the self-employed earn the lowest income; it should be noticed that we are not considering extra payments or incomes from other jobs, otherwise the earnings of the self-employed would probably be higher.

#### Working hours per week

The results of Table XII indicate that entrepreneurs have the highest level of working hours on average, with a total of 47 working hours per week. The second highest score is for private employees with 45 working hours per week. The self-employed and entrepreneurs show great differences: the self-employed work 5 hours less than entrepreneurs, which suggests that the dedication of more time is necessary for the activity of entrepreneurs.

TABLE XII. Total working hours per week by type of employment

	Working hours per week	
	Mean	SD
Entrepreneurs	47	14
Self-employed	42	16
Employees	43	12
Public employees	42	13

Non-profit organisation	40	12
Private employees	45	11

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### *Work orientations*

#### Job satisfaction

Table XIII illustrates the general satisfaction (on a 5-point scale, from 1 'very dissatisfied' to 5 'very satisfied') with current work amongst the graduates surveyed. Entrepreneurs are the most satisfied, whilst the self-employed are more unsatisfied. Public sector and non-profit organisation employees are more satisfied than those in the private sector. The low level of satisfaction for private employees is remarkable because this is the group with the highest income. One possible explanation could be that people holding a permanent contract are more satisfied with their jobs and private employees perceive some kind of labour instability. Entrepreneurs are the most satisfied with their work, even when they work longer hours and earn less than their colleagues in the private sector.

TABLE XIII. General satisfaction on average with current work by type of employment

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General Satisfaction with current work		
	Mean	SD
Entrepreneurs	3.9	0.9
Self-employed	3.5	1.0
Employees	3.7	1.0
Public employees	3.8	1.0
Non-profit organisation	3.7	1.0
Private employees	3.6	1.0

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#### Motivation to work and related characteristics of the current working situation

Table XIV is the merge of three tables with the assessment of recent graduates to the following two questions: 'how important are the following characteristics of an occupation for you personally (first panel: motivation to work) and to what extent do they apply to your current professional situation (second panel: characteristics of the professional situation)'. The third panel shows the differences of panels one and two to

explore the match of graduates' expectations. These tables allow us to appreciate the high importance the entrepreneurs give to the item 'Largely independent disposition of work' followed by item 'Opportunity of pursuing own ideas' and then 'Challenging tasks'. The main difference from the first and second panel is that in the current professional situation entrepreneurs give more importance to 'Co-ordinating and management tasks'. Entrepreneurs and self-employed differ largely in the higher importance the second group gives to 'job security'. The bigger differences are between entrepreneurs and employees. For example, public employees state that 'job security' is the most important motivation to work. The difference between entrepreneurs (3.55) and public employees (4.26) is remarkable. Another aspect that must be stressed is the importance employees give to the 'possibility of working in a team', particularly those working for a non-profit organisation. The latter group is also highly motivated to work if they have 'enough time for leisure activities'. Comparing private employees with the rest of graduates, they are relatively more motivated if they have a 'high income'.

As expected, the characteristics of the work situation do not fully match the motives of the graduates. Entrepreneurs, the self-employed and employees are generally disappointed about 'enough time for leisure activities' and 'high income'. On the other hand, the motives of entrepreneurs are fully met on average as far as 'social status and recognition' and 'co-ordinating and management tasks' are concerned. The self-employed share 'social status and recognition' with the entrepreneurs group and, finally, the employees' expectations almost meet the 'possibility of working in a team'.



TABLE XIV. Motivation to work and related characteristics of the current working situation by type of employment

Motives	Entrepreneurs		Self-employed		Employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Independent disposition of work	4.46	0.76	4.29	0.82	4.01	0.89	4.05	0.91	4.04	0.89	3.97	0.88
Opportunity of pursuing own ideas	4.40	0.74	4.24	0.83	4.13	0.8	4.14	0.82	4.27	0.73	4.10	0.79
Challenging tasks	4.21	0.83	4.05	0.89	4.06	0.86	4.01	0.90	4.15	0.79	4.09	0.84
Enough time for leisure activities	3.84	1.03	3.93	1.01	4.05	0.92	4.09	0.92	4.14	0.87	4.00	0.92
High income	3.77	1.00	3.65	0.96	3.70	0.92	3.58	0.96	3.44	0.97	3.82	0.87
Co-ordinating and managerial tasks	3.66	1.09	3.41	1.08	3.45	1.04	3.27	1.08	3.49	1.04	3.58	0.99
Job security	3.55	1.24	3.77	1.13	4.11	0.97	4.26	0.91	4.02	0.99	4.02	1.00
Possibility of working in a team	3.54	1.07	3.47	1.09	3.76	0.95	3.74	0.98	3.92	0.93	3.75	0.93
Social recognition and status	3.29	1.11	3.31	1.09	3.31	1.05	3.34	1.05	3.23	1.05	3.31	1.05

Current Situation	Entrepreneurs		Self-employed		Em-employees		Public Employees		Non-profit organisation		Private employees	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Independent disposition of work	4.44	0.83	4.23	0.95	3.67	1.09	3.71	1.11	3.79	1.02	3.63	1.08
Opportunity of pursuing own ideas	4.13	0.94	3.86	1.05	3.54	1.10	3.57	1.14	3.83	1.02	3.48	1.08
Challenging tasks	4.10	0.97	3.81	1.09	3.73	1.10	3.76	1.10	3.85	1.01	3.70	1.10
Co-ordinating and managerial tasks	3.72	1.20	3.24	1.30	3.11	1.20	2.94	1.19	3.22	1.22	3.21	1.17
Social recognition and status	3.44	1.01	3.34	1.09	3.23	1.05	3.22	1.07	3.15	1.03	3.25	1.03
Possibility of working in a team	3.40	1.25	3.21	1.23	3.75	1.06	3.74	1.06	3.92	1.06	3.73	1.06
High income	3.11	1.26	2.83	1.23	2.95	1.11	2.77	1.10	2.67	1.11	3.11	1.08
Job security	3.08	1.37	3.06	1.40	3.70	1.26	3.72	1.38	3.51	1.32	3.71	1.14
Enough time for leisure activities	3.07	1.26	3.13	1.22	3.22	1.20	3.42	1.18	3.34	1.17	3.06	1.19

Differences means: Motives- Current situation	Entre- preneurs	Self- employed	Em- ployees	Public Employees	Non-profit organisation	Private employees
Independent disposition of work	0.02	0.06	0.34	0.34	0.25	0.34
Opportunity of pursuing own ideas	0.27	0.38	0.59	0.57	0.44	0.62
Challenging tasks	0.11	0.24	0.33	0.25	0.30	0.39
Enough time for leisure activities	0.77	0.80	0.83	0.67	0.80	0.94
High income	0.66	0.82	0.75	0.81	0.77	0.71
Co-ordinating and managerial tasks	-0.06	0.17	0.34	0.33	0.27	0.37
Job security	0.47	0.71	0.41	0.54	0.51	0.31
Possibility of working in a team	0.14	0.26	0.01	0.00	0.00	0.02
Social recognition and status	-0.15	-0.03	0.08	0.12	0.08	0.06

## Conclusion

The results show that, in general, entrepreneurs, the self-employed and employees display rather different profiles regarding both the elements leading to, and those emerging from, their occupational decisions after graduation.

On the one hand, gender and country of residence seem to be relevant determinants amongst the elements influencing the decision to become an entrepreneur. More men than women become entrepreneurs and the percentages vary widely by country, with Italy at the top and France at the bottom. The retrospective views of entrepreneur graduates about their educational experience characterise them as a separate group. On average, they had high grades in secondary education, suggesting relatively higher ability, but they took longer to complete their higher education studies, possibly because they carried out additional (entrepreneurial?) activities during their studies. During their education, entrepreneurs prefer to spend their time gaining practical experience rather than attending lectures. Remarkably, those graduates who start up their own business undertook further education and training to a greater extent than the rest of graduates, perhaps realising that they were going to need additional knowledge and competences in their entrepreneurial activities. Surveyed graduates agree in evaluating negatively the provision of practical experience by their institutions, but entrepreneurs appear especially concerned about the difficulties their institutions had to provide them with practical experience and with the necessary conditions to facilitate their access to the labour market. Entrepreneurs also show a characteristic profile regarding the combination of competences they possessed at the time of graduation; those graduates who became entrepreneurs scored relatively higher in leadership and taking responsibilities, and relatively lower in time management.

On the other hand, our analysis reveals that graduates who became entrepreneurs achieve in general labour market situations that are clearly different from those achieved by the rest of graduates. Major differences are found in terms of the competences required in their occupation; entrepreneur graduates have in general more demanding activities, and selective competences appear as key factors in entrepreneurship: negotiating, working independently, taking responsibilities and decisions, critical thinking and leadership. Besides, entrepreneurs have on average relatively high incomes and are more satisfied with their jobs, although they work longer hours than other graduates. They also differ in their motivation to work: enjoying an independent disposition, which gives opportunities of following their own ideas, and the challenge represented by the risks taken are the key elements for a graduate who becomes an entrepreneur.

The decision to become an entrepreneur and its effects are capital for diverse social agents. Students and graduates form their expectations and make their educational and occupational decisions according to their preferences under personal, social, and financial constraints. Their future economic performance would depend on this decision. Academics and managers organise the provision of study places and decide over the modes of teaching and learning, shaping the competences graduates would bring to the production system. Entrepreneurship in people may be promoted or discouraged during their educational experience. Finally, policy makers elaborate and implement the mechanisms aimed at increasing productivity and improve equity which ultimately define the framework under which modern societies will operate. Education policy, as well as taxation and 117 credit policies, may help to generate favourable atmospheres for entrepreneurship in the EU. The implications of the our analysis suggests, in spite of its evident limitations, that the forces behind the decision of starting a business and the consequences this decision generates are complex and deserve further efforts by researchers from diverse backgrounds to be better understood.

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## ARTÍCULO 2 (adaptado para tesis doctoral)

### **Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community**

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#### **Abstract**

According to the last report "Women FTSE 2009" developed by Cranfield School of Management and the IE Business School and sponsored by Pricewaterhouse-Coopers, Sainsbury, Enliven, HSBC and Pearson, the number of European companies with women in positions of executive direction has been reduced from 16 to 15 and the number of women in the board meetings from 39 to 37 has fallen. Moreover, there has been a decrease in the number of total of businesses with women in their counsels, since 1 of each 4 businesses has an exclusively male counsel. The study, reveals a pessimistic panorama for women from the analysis of the number of guidelines that work in the companies that belong to FTSE 100, the British index that includes the 100 main values of the London stock market. The study also reflects a descent in the number of women that occupy key positions in the businesses of the FTSE 100. In the year 2008 there were only 5 women CEOs and 3 regional executive directors. In the 2009 only there were 4 CEOs. The purpose of this article is to see if the origin of this situation is a direct consequence of businesswomen confronting more difficulties than the businessmen upon putting in common its professional and personal life or if by contrast this corresponds to an stereotyped perception of gender inequality. With this end we conducted a study using a sample of businesswomen and men with experience analyzing its motivations to create business, difficulties that they find, and the solutions to improve the conciliation of its professional and personal lives. The results show that there are no significant gender differences in the motivations, regardless of who the head of the family is (bearing main responsibility for the house and children). On the other hand, we show that businesswomen diverge from businessmen in the

perception of motivations and challenges they have. Indeed, businessmen agree with businesswomen in the motivations and difficulties that these have, and consider that they give to them more importance than women themselves.

### **Context and theoretical framework**

During the last decades, while regional development and innovation have gained relevance (Mas-Verdu et al. 2010) and SMEs have focused towards internationalisation (Meliá et al. 2010), the incorporation of women to the workplace has represented the most critical socio-demographic phenomenon of the second half of the 20th century (Kanter 1994). Various factors have had an impact on the family. First, a greater number of women have achieved advanced levels of education, with more opportunities to access executive positions. In addition, professional women have also tended to marry professional men, therefore altering the composition of families, now with two sources of income, instead of the dominant traditional family model, in which the bread winner was the father of the family. Second, the proportion of single-parent family has grown, and it is not considered an exceptional group anymore. Nevertheless, many businesses do not reflect this change in the design of the jobs. The structure of the work is still more appropriate for male employees with families with a single source of income, and demonstrates incompatibility between working hours and the care of children and older dependents. Traditionally, women were in charge of the family unit, taking care of the home and the children. Currently, this role, or at least their functions, could be shared between the two spouses, –man and woman- both parents and professionals at the same time. In addition, there has been an abrupt descent of birthrate. In many occasions the women have had that to choose among the labor stability or to have children. All these circumstances, that were seen first as consequences of the emergence of new models of R&D (Koschatzky and Stahlecker 2010) and modern organizational demands are now contemplated as sociological realities that require more attention. One of the consequences of this demographic change is that more individuals experience conflict among the realms of work and family. The conflict work-family exists when the pressures of the environment from work and family are not compatible in some aspects (Greenhaus and Beutell 1985). Three types of conflicts are identified in the literature on this matter. The first occurs when the time utilized in one of the two functions impedes to invest time on the other. The second occurs when high levels of tension in the compliance of one of the roles are present, and at the same time affects to the performance in the other function. Last, it is related to the behaviors required by both roles, when incompatibilities among the desirable behaviors in the two environments exist (Yang et al. 2000).

Studies conducted at an international level, reveal the problems generated when an inadequate equilibrium exists between the time and the effort dedicated to work and the one dedicated to the family life (Brett 1997; Felmler 1995; Greenhaus or to the., 1997; Klerman and Leibowitz 1999; Konek and Kitch 1994; OppenheimMason and Duberstein 1992). Among them, there is a greater risk of health deterioration for parents that work, poor performance of parental functions, psychological tension, anxiety, frequent irritation, depression, work stress and diverse psychosomatic problems (Frone et al. 1997). The direct consequence is that it does not only affect individuals, but also businesses. Work dissatisfaction, poor performance and commitment to the organization, along with greater levels of absenteeism and rotation, are directly related to tensions caused by the simultaneous performance of the family and labor roles (Greenhaus and Beutell 1985) and of course may reduce the importance of innovation (Baregheh et al. 2009; Sundbo 2009; Toivonen and Tuominen 2009). Especially in women-owned firms can challenge its survival (Rufin and Medina 2010).

Studies carried out in other countries indicate the positive impact that family friendly policies can have in the work-family equation, and that this requires businesses that facilitate a greater equilibrium between the family and labor responsibilities if they want to increase performance. The existence of flexibility work schedules, personal leave absence, and the support in domestic tasks, promote an increase in welfare of those that balance work and family (Greehaus and Parasuraman 1997, 1999; Lobel and Kossek 1996; Lobel 1999). A growing interest exists, not only in the academic world but also from a business perspective, on human resources as a source of competitive advantage (Coff 1997), giving the competent followers the importance they really have (Huang et al. 2010). Current lines of research have focused on the effort some organizations have on the politics of human resources and how to generate a high commitment among the workers. They have created incentives to increase performance and the participation in the decisions, as well as opportunities for a more integral development of individuals' lives. In exchange for these investments, organizations expect to attract and to develop the human team to reach high performance, and be motivated and committed to the objectives of the organization (Huselid 1995; Pfeffer 1994).

Research studies carried out in the United States and Spain have focused on four factors that can help set in motion programs that deal with work and family in organizations:



- The size of the organization (Glass and Fujimoto 1995; Goodstein 1994; Ingram and Simons 1995; Morgan and Milliken 1992; Poelmans or to the 2003; Remery or to the 2003).
- The percentage of employed women (Goodstein 1994; Poelmans or to the 2003; Osterman 1995).
- The competitiveness of the labor market.
- The degree of concern in retention of employees.
- It is important to remember that all the initiatives developed by organizations are only complimentary of those already carried out by government initiatives.

### **Introduction to the research study.**

To discuss social and economic progress and policies to enhance innovation (Abreu et al. 2010) without contemplating gender related aspects, seems paradoxical because the basic question remains immutable. Masculinity and femininity continue to be outstanding aspects of the social life. Although there is an increase interest in the literature about gender differences in all areas of life (family, labor, social, political...), very little has been theorized on the behaviors of women and men from the perspective of the innovation in the business enterprising character" (Roig 2004).

In words of Mukhtar (2002, p. 289) "evidences exist that the great impulse experienced by the enterprising activity in recent years is due to a large extent to women". In the United States, the women property businesses number has been increased between the 80 and the 90% over the last decade. According to Mukhtar (1996), in the European Union the increment of the female self-employment oscillated between 14 and the 37%. However, given that the culture of the current businesses is predominantly male (Adler 2002), women still find greater barriers in their business career due to various reasons (Lyness and Thompson 2000; Verheul and Thurik, 2001, p.330); among the reasons are that the styles of male leadership are considered like a model to imitate (Adler 2002) or the lack of adaptation to the most accepted stereotype (Hisrich and Fulop 1994). In words of Munduate (2003, p.3), "we can affirm that generally the models of socialization for the exercise of the managing function have been developed for the men and the women have adapted to it timidly, with humility and imitating the existing models". Consistently, "the masculinization of the culture of the business has a discriminatory effect on the women property businesses, that in turn affects negatively their success". There are differences between men leadership styles and women leadership styles and these influence the results obtained. Contrary to male leadership styles, women put in practice a more participatory style. A great number of research

studies analyzed the characteristics of leadership in regards to gender differences in large businesses (Mukhtar 2002, p.291). However, more recent studies conducted in small businesses conclude that the businesswomen delegate responsibilities in their businesses (Mukhtar 2002, p.305); their decision making is more influenced by their personal objectives than by the needs of their business (Mukhtar 2002, p. 305). Finally, businesswomen are more willing to assume responsibilities, they do not tend to overrate their results, and they have lower remunerations. Different authors as Brusck (1992) in the United States or Rosa et al. (1996) in United Kingdom, formulated the hypothesis that on equal terms the businesswomen tend to achieve smaller economic successes. For Du Rietz and Henrekson (2000, p.9), this hypothesis is only confirmed partially, since the conclusions obtained in their study from a sample of 4200 small businesses suggested that the businesswomen are used to managing small businesses, and that these businesses success depends heavily on the support of their families and clients. Their performance differences is appreciable at a sales level, and not at a gender differences in the attainment of benefits. The performance of the businesswomen is a lot smaller in large businesses and does not exist in businesses of a single employee. Without doubt, the main reason why women decide to become businesswomen is directly related to the context, and the influence of psychological, sociological, economic, and cultural factors (Landström and Winborg 1996; Ribeiro 2003; Ripollés 1994). According to some authors, women businesses are usually smaller in size in terms of income and employment (Carter and Rosa 1998; OECD 1998), its growth is smaller (Fischer or to the, 1993; Rosa or to the. 1996; Du Rietz and Henrekson 2000, p.9), and consequently, the success rate is also smaller (Kalleberg and Leicht 1991). Nevertheless, McClelland (1961), suggested that no gender differences exist in the ability to make business succeed. For Ramírez et al. (2010), entrepreneurship is a practical, simple and complex phenomenon that managers experience directly in their activities and functions, as a breaking act and improvement of the conditions of life of the society.

### **Motivations and challenges.**

Lumpkin and Dess (1996), suggested that it is critical to explore the relationship between the entrepreneurship behavior and the outcomes, given the fact that there is a need to compete in the current economic context. In words of Wu et al. (2009), through networking and using trust, an entrepreneur can gain the critical resources and competitive advantage required in the development of a business.

Additionally, individual motivations have an impact in the outcome (McClelland 1965, 1971), indeed, management support for generating and developing new business ideas, allocation of free time, convenient organizational structures concerning, in

particular, decentralization level or decision-making autonomy, appropriate use of incentives and rewards, and tolerance for trial-and-errors or failures in cases of creative undertakings or risky project implementations, generate direct and interactive effects on the innovative performance of companies (Alpkan et al. 2010).

Becherer y Maurer (1999) suggested that a proactive approach is directly related to entrepreneurship, regardless of gender, because the entrepreneurs decide the means or the ends to achieve results (Eckhardt and Shane 2003, p.336). It is key that the entrepreneur learns the enterprising business (Ripollés and Menguzzato 2003, p.242), because their entrepreneurial characteristics matter to a firm's successful implementation (Sebora and Theerapatvong (2010). In words of Wagener et al. (2010), entrepreneurs possessed higher levels of independence, tolerance of ambiguity, risk-taking propensity, innovativeness, and leadership qualities, but not of market orientation and self-efficacy.

Du Rietz and Henrekson (2000, p.10) confirmed that for women becoming entrepreneurs gives them more independence and control over their work lives, even though a closure experience decrease the probability of solo entrepreneurship (Tihula and Huovinen 2010). According to Cowling and Hayward (2000, p.169), when the labor market is under stress, women tend to go from unemployment to selfemployment in order to secure family income, in case men lose their jobs. Some authors (Scott 1986; Chaganti 1986; Holmquist and Sundin 1988), explained that small businesses provide women with flexibility to concile their family and business responsibilities. Sexton (1989) suggested that there are more women who prefer their business not to grow because they want also to achieve other goals. Rosa et al. (1996), explained that men instead prefer that their businesses grow as much as possible.

In addition Goffee and Scase (1985), maintained that businesswomen tend to consider their businesses as just one part of their context, which also includes their family, their communities, and friends. Carter and Cannon (1992) suggested that businesswomen manage their companies in a way that it does not create conflict with their families. This evidences the fact that for women to be able to concile their personal and business lives is critical. Chinchilla and León (2004, p.19), however, posed that this idea of conciliation of both work and life spheres is a generalized aspect that affects men and women in the developed countries.

From a socio-demographic point of view, Rees and Shah, in their research in 1986 concluded that age, education, marital status, and having children, is positively correlated to becoming self-employed. In a later study, Taylor (1996) confirmed the same idea. Some of the theories that sustain these variables are explained next.

All the studied mentioned earlier agreed that gender differences in family roles exist for businessmen and businesswomen. Dolton and Makepeace (1987) explained that due to the family role businesswomen play, the time they spend in their business and with their family affects their performance at work. As a consequence, the time they dedicate to business networking affects negatively their networking experiences, and their business success, compared to their male counterparts (Junquera 2004, p.964). Hill (1979, explained that women's goals, their occupational choice and their commitment to work, are directly related to bearing children. This affirmation implies that whoever dedicates more time to children, its effect is detrimental to their work life. In this same line of thought, Junquera (2004, p.971) affirmed that "dedication to children has a negative influence in businesswomen and their businesses".

The search for an alternative solution for their time limitation, may lead businesswomen to consider something like collective entrepreneurship, "which is not just the sum of individual efforts" (Comeche2004, p.1059), but the sum of individual contributions to the same effort" (Reich 1987, p.78). Comeche and Loras (2010) concluded that job satisfaction and commitment to the team are factors that have a direct and positive effect on collective entrepreneurship.

In a study conducted by Wunnava and Ewing (2000, p.47) the authors found critical gender differences in the way women develop alliances. This alternative attracts more women than men because it helps them gain more respect professionally and allows them to consider maternity leave as an option when needed. In order for this alternative to succeed, goals between the parts involved need to be aligned (Menguzzato 1992, p.53.)

Another factor that contributes substantially to the success of business owned by women is "the support and entrepreneurship experience of the family, specially the husband or father" (Junquera 2004, p.972). The support women receive from the father who is an entrepreneur is critical according to Bowen and Hisrich (1986). In addition, Bruce (1999, p.324), explained that the fact that husbands are self-employed have a positive effect on women's self-employment. First, priorities are similar and there is a tendency to be self-employed in family businesses (Lin et al. 1998); second, because there is an increase of human capital and financial capital (Caputo and Dolinsky 1998).

In regards to the age variable, some authors like Holz-Eaquin et al. (1994), sustained that this factor may be related to the attitude towards risk and other aspects of entrepreneurship. However, Blau (1987), does not recognize the age factor as an element that influences self-employment or the salary differences between men and women.

According to authors Borjas and Bronars (1989), the probability of becoming self-employed increases for college graduates. However, Dolton and Makepeace (1986) concluded in an earlier study that the income generated from the male college graduates that were married increased, but the income did not increase for women college graduates that were married.

Finally, another socio-demographic variable to keep in mind is the educational level. "Education and training has a positive impact on the success, because it influences creativity, innovation, flexibility, adaptability and the accumulation of knowledge that is needed for entrepreneurship". (Ribeiro 2004, p.122). Cowling and Taylor (2001, p.167), showed in their study that women entrepreneurs have higher educational attainment levels than their male colleagues, and that the trend to become self-employed was considerably higher for men than it was for women.

Burke et al. (2002, p.265), explained that having children is directly related to the probability of being self-employed for men and for women that are less qualified. For women that are highly qualified no relationship was found between having had at least a child and being self-employed. The authors found that vocation has a negative correlation with the probability of becoming self-employed for men, but a positive correlation for women. The desire to become their own boss is directly related with their choice to become entrepreneurs, while the desire to have a secure income is negatively correlated with the probability of becoming entrepreneur.

## **Methodology and analysis.**

### Sample

In order to conduct this study, the sample collected was 40 individuals (20 businessmen and 20 businesswomen from the city of Valencia, Spain). First, individual interviews of about one hour were conducted with each individual. Later, a questionnaire with nine questions was developed, based on their answers, and was completed by each participant.

### Interviews

The themes in the interviews were the motivations that made the participants want to launch their businesses, the challenges they faced when trying to balance their personal and professional lives, and the solutions they found to make their work compatible.

### Questionnaire

The following questions were asked in the survey

1. What motivated you to become an entrepreneur?
2. Do you face any challenges in trying to balance life-work?
3. To what degree do you experience challenges?
4. What are your suggestions to improve the situation/make it work?
5. What motivates other entrepreneurs in the opposite gender to become entrepreneurs?
6. What challenges do they face in your opinión?
7. To what degree?
8. What are your suggestions to improve the situation/make it work?
9. Personal and professional background, experience in entrepreneurship and basic characteristics of their business.

As we see above, the first four questions of the survey deal with questions that are related to entrepreneurs self-motivation to start businesses, the challenges they face in trying to coincide life and work, and their suggestions for improvement in dealing with those. Later, we asked the participants to answer the same questions for the opposite gender. Finally, we asked them to provide us with information about their personal background, in terms of gender, age, educational attainment level, marital status, if they have children or no, number of children, if they are single parents or not, if they have domestic assistance. In terms of their professional background, we asked them to talk about their professional lives prior to initiate their own business, business sector, their previous experience in it, level of seniority, number of partners and their gender, number of employees, income generated, and time invested in their business.

#### Analysis of results

The data obtained from the two groups was subject to study. First, a Descriptive Analysis of the answers to the questionnaire was conducted. The tabulation is presented crossed by the following fundamental sociodemographic variables: sex, if they have or not children and the combination of both. Second, a Bivariate analysis was conducted to relate the different aspects of the questionnaire implied in response to the objectives of the investigation. The employed statistical technique used was the non parametric test of Mann-Whitney for independent samples. Third, through the Multivariate analysis the relation among multiple aspects was studied simultaneously, achieving thus a point of view that reflects more exactly the reality. We applied two factorial techniques: Factor analysis of the motivations extracting the main components with a rotation of Varimax to better interpret the meaning of the factors, and second, a Correspondence Factorial Analysis. Finally, an Interactions Detection Analysis was carried out (AID) for the

general level of difficulty in the conciliation of both facets. The results do not show any statistical significance. The statistical contrasts utilized for the detection of interactions are of type X2. The level of employed meaning in all the analyses has been the habitual one of the 1%.

## **Results**

### Descriptive analysis

First, we discuss the demographic variables of the sample: age, level of studies, if they are in a relationship, if they have children, with whom they live, and if they have domestic personnel of support. The sample is composed for 20 businessmen and 20 businessmen, with an average age of 35.7 years ( $\pm 8,5$ ) and that oscillates between the 24 of the youngest one and the 64 of the oldest. The level of studies of the participants interviewed corresponds at least with an average educational qualification of more than the 92% for most, and an upper qualification above the 60% for the rest. The 85% of the businessmen of the sample are in a relationship and at least half of them have children. It is more habitual in the sample to have a relationship with children (42.5% of participants) set against the ones that they live in couple without children (17,5%) or alone (17,5%). Almost three quarters of the participants in the study have domestic personnel of support.

With respect to the starts of its business experience and the basic characteristics of its businesses, the sample has the following characteristics: 57.5% of the businessmen were employees before creating his own business, while a 37.5% were students. In all the cases except for one, the businesses are of new creation and they belong to diverse sectors of activity (see table). At least 57.5% of the businessmen recognizes to have had prior experience in the sector in which they created the business. The average years of experience for businessmen is 4 years, being the habitual thing to have created the business next to other associates (75% of the cases). There is a tendency to be associated with people of the same gender. The trend in this type of business is to have 3 employees and make 100,000€.

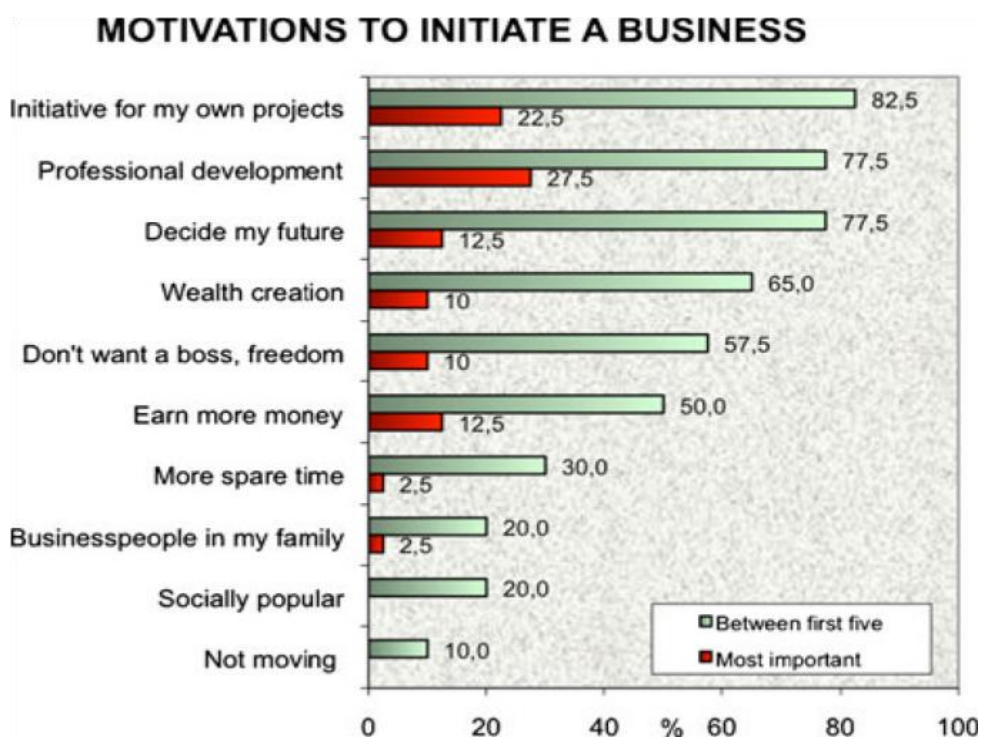
In terms of the challenges to balance personal and professional life and the motivations to create new businesses we describe them jointly (for men and women). In graphic one we appreciate clearly that the ten most important motivations divided into three groups are the following: the first group considers "search of a greater and better professional development", the "initiative to carry ahead the personal projects" and the "capacity to decide their own future"; the second group understands the spirit of "creating wealth in the environment", "not to have leaders" and "to make more

money”; the third group, collects the rest of the motivations that barely have been voted in the first place. The motivations that appear more often in this last group are “search of a greater and better professional development” (27,5%) and the “initiative to carry ahead the personal projects” (22,5%) (Graph 1).

In regards to the challenges the interviewees have to balance work and life, Graph N. 2, shows that the most challenging of the five mentioned (80%) is “scarce time for leisure” (friends, sport, to leave...). The rest of the challenges mentioned are related also with the lack of free time such as: “Lack of rest”, “inability to do nonwork related tasks”, “time to enjoy holidays”, etc...

In general, the individuals interviewed recognize that they have challenges in balancing work and life. In 25% of the individuals interviewed they find a fair amount or many challenges and more than the half of them (the 55%) finds few or some challenges to concile both facets (Graph 3).

When asked about posible solutions to concile work and personal life, the most important suggestion is to organize decision making; the need to do have a good plan for delegating responsibilities; and the need to choose an adequate management team. A third suggestion consists in being able to remove yourself from the work environment by pursuing other leisure activities.

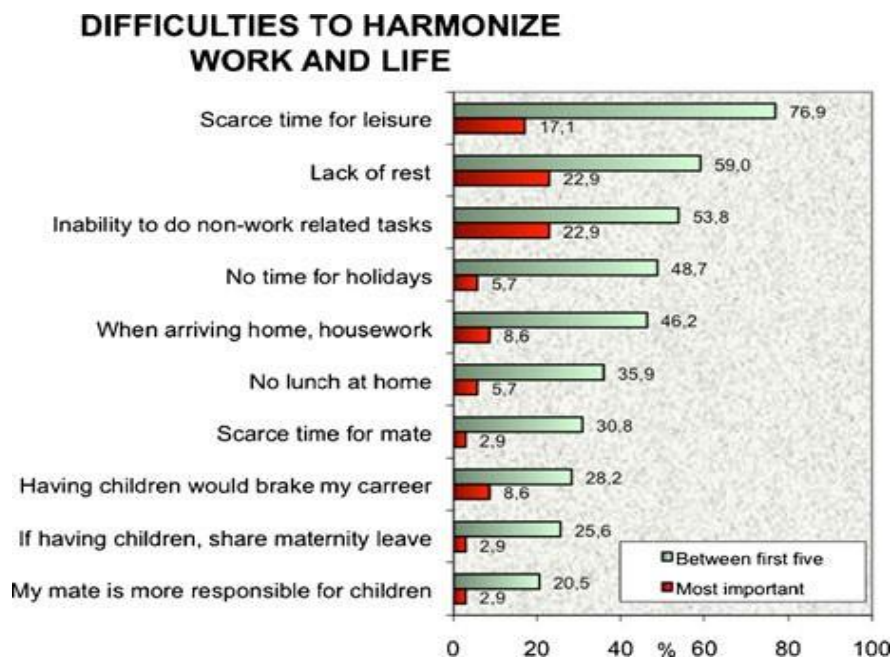


Graph 1 Motivations to initiate a business

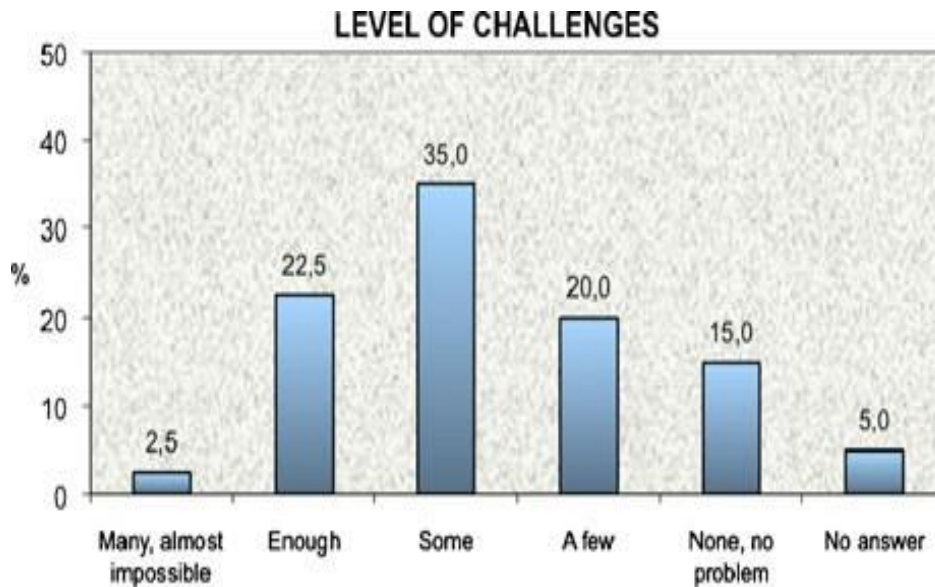


*Significant differences*

Gender differences To what extent have women and men entrepreneur different motivations to start a business? Are the challenges to balance work and life essentially different for men and women? What solutions do men and women propose? Gender differences are found in the answers to these questions through the study. Results show that there are statistical significance in regards to one specific challenge, which is the duty of taking care of the house after work ( $p\text{-valor} < 0,001$ ). There are no significant differences in the personal profile of men and women entrepreneurs. This study shows that female entrepreneurs give more relevance to this duty than male entrepreneurs. At least 70% of female entrepreneurs think that balancing work and life is a challenge for them; in contrast, only 21% of male entrepreneurs think of it as a challenge.



Graph 2 Difficulties to harmonize work and life



Graph 3 Level of challenges

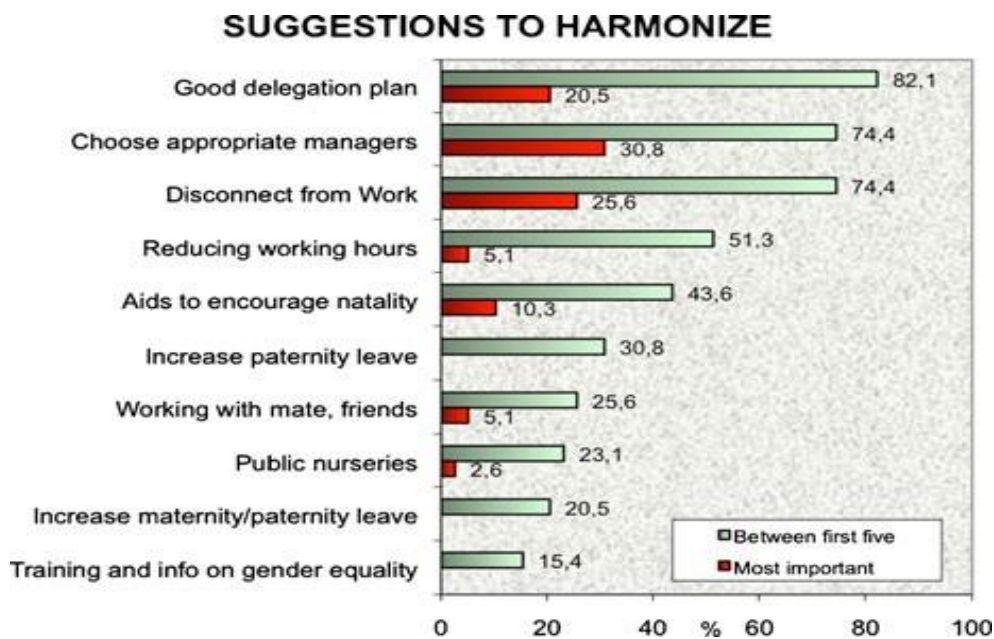
Differences of opinion between women and men entrepreneurs about men's challenges. In this section we compared men's motivations and challenges to become entrepreneurs, and suggestions to balance work and life. Then we compared their answers to what women think men have in reality. We observed significant differences in both perceptions.

In terms of motivations to become entrepreneur we have found discrepancies related to having the initiative to carry on projects (p-value 0,004) and make more money (p-value 0,004). Men entrepreneurs tend to rate higher in the first reason, while women entrepreneurs think that men's primary reason is to make more money. 95% of men entrepreneurs suggest that their main motivation to initiate/create a company was their drive to initiate new personal projects. However, only 35% of women entrepreneurs think that this is true for men. While 60% of men entrepreneurs do not see making more money as their main reason to initiate a business, 80% of women entrepreneurs think they do.

The challenges faced by men entrepreneurs are also perceived differently by men and women when we look at these particular items: taking care of the children (p-value 0,006) and spending time with the family (p-value 0,002). Results indicate that women consider that both of these challenges are the main challenges men entrepreneurs face in trying to achieve balance in their personal lives. However, as shown in Graph 4., men entrepreneurs do not give the same relevance to these two items.

Finally, in terms of suggestions to improve the balance between work and life, men entrepreneurs do not think that paternity leave is a good solution (15.8%). Women, however, think that it is important that men are granted paternity leave (55%). These differences are significant with a p value of 0,012 (Graph 5).

Differences of opinion between men and women entrepreneurs about women We compared the motivations, challenges and suggestions indicated by women with the perceptions men have about what women. The first conclusion we reached is that there is a consensus between men and women in the perceptions. The only exceptions is the one that deals with the following challenge: having children has a negative effect on career development for women (p-valor 0,002). 40% of women entrepreneurs think that having children had a negative impact of their career advancement, while men think the significance of it is double. This particular aspect can be problematic when entrepreneurs decide to hire women, because in similar conditions, with this perception, men would hire men instead of women (Graph 6).



Graph 4 Suggestions to harmonize

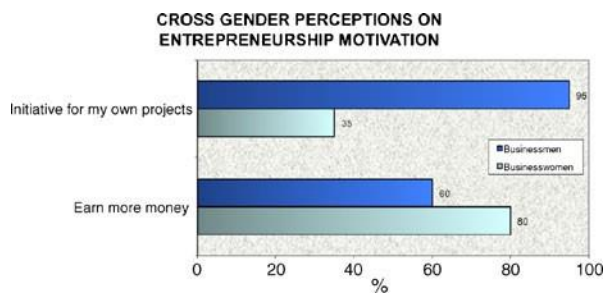
Factorial analysis

Factorial analysis of motivations and challenges

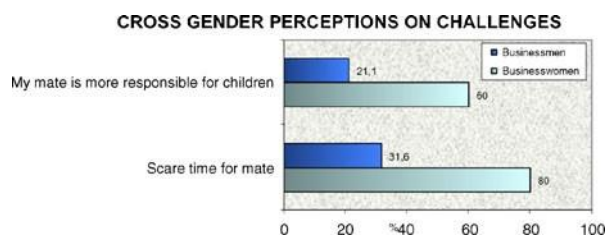
As we explained previously, when we provided the questionnaires to interviewees, we asked them to rank order their motivation to initiate a business and the challenges faced in balancing work and life. It is possible that certain correlations regarding gender,

exist in the answers. The purpose of the factorial analysis is to account for the men and women's answers separately.

Motivations for men entrepreneurs After conducting the factorial analysis, the variance explained in this first model is 75%. This means that the following four factors can only explain 75% of the variance given to motivations. The factor 'Sociability-Free time' explains 23% and is related to motivations that allow men entrepreneurs to have more free time and create employment and make money. The factor "Freedom" explains 18% of the motivations and is related to being your own boss and the initiative to initiate personal projects. The factor "Geographic immobility" explains 18% and is related with the unwillingness to move to another geographical location to work or live. Finally, the factor "Family Tradition" explains 16% and is related to the existence of traditional entrepreneur families.



Graph 5 Cross gender perceptions on entrepreneurship motivation



Graph 6 Cross gender perceptions on challenges

*Motivations for women entrepreneurs.* The variance explained in this model is 73%, therefore these three factors only explain 73% of the answers. The factor 'TraditionImage-Personal Reasons' explains 37% and is related to the good social image of women entrepreneurs, having a entrepreneur family tradition, enjoying more free time, and to not change the place of residence. The factor "Professional-Economic", explains 22% and is related to being able to achieve greater career development goals and make more money. Finally, the factor "Freedom: explains 14% and is related to being able to decide about your own future.

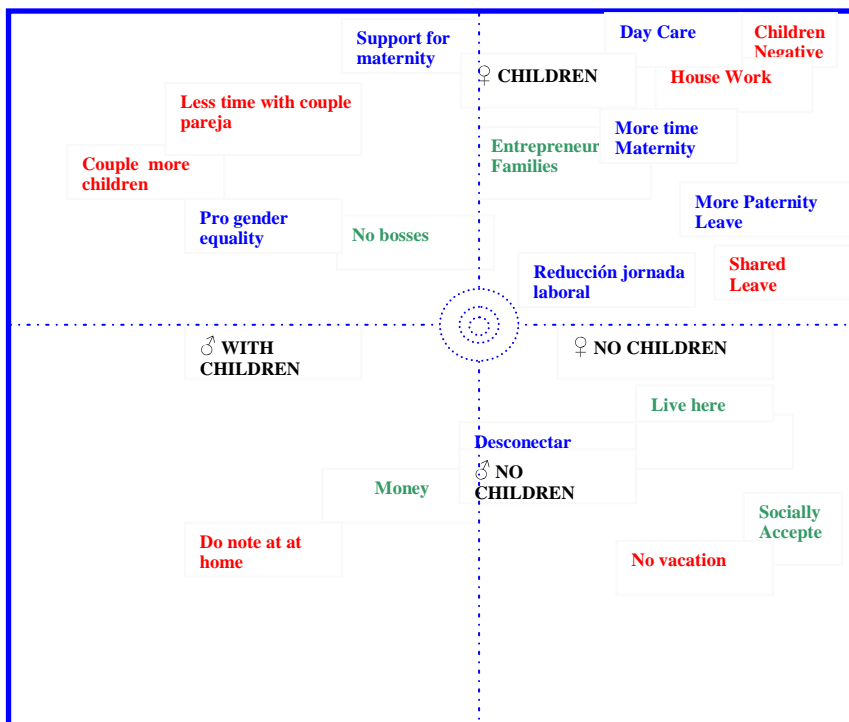
*Challenges for men entrepreneurs.* The variance explained in this model accounts for 71%, therefore the four factors explain only 71% of the variance given in the answers to challenges faced by men entrepreneurs. The factor "Children-Vacation" explains 21% and is related to the prejudism about taking care of the family and the impossibility of going on vacation. The factor "Couples", explains 18% and focuses on other sacrifices that affect daily life as a couple, like spend less time with your partner, that one of the partners spends more time taking care of the children than the other, and finally not being able to have lunch at home. The factor 'Free Time' explains 16% and is related to the lack of time and the overwhelming workload of housework. The factor "Mental Dependency" explains 15% and is related to the fact that one cannot forget about work when he is not at work.

*Challenges for women entrepreneurs.* The variance explained in this model accounts for 76%, therefore the four factors explain only 73% of the challenges faced by women. The factor 'Children-Housework-Free' explains 23% and is related to the fact that women devote more time to taking care of the children, house work, and have less free time. The factor "Lack of rest" explains 19% and is related to the fact that women do not have enough time to rest and cannot afford to go on vacation. The factor "Mental Dependency" explains 18% and is related with the inability to remove yourself mentally from work. Last, the factor "Children-Not having lunch at home", explains 17% and is related to the items that define the factor.

*Factorial analysis of the correlations between motivations, challenges, and suggestions for improvement and profile of the data set.*

As explained above in section "Motivations and challenges", the purpose of the factorial analysis of correlations is to visualize the correlations between the three factors in this study (motivations, challenges, and suggestions for improvement) as they relate to the profile of the entrepreneur, and taking into account gender and number of children. We considered four basic profiles accounting for gender, and existence of children, men with children, no children, women with children, or not children. It is our intention to build a contextual framework with the motivations, challenges, and suggestions for improvement where we can project basic profiles. This framework or map is defined by certain factors that explain it. The results obtained are showed below in Graph 7. All the items from the questionnaire that do not appear in the map, are situated in the beginning (the space where we have the concentric circles), meaning that they do not separate the profiles per se, but that all the profiles are related to those items with the same intensity. Therefore, we need to pay attention only to that factors that are represented. In green color we see motivations; in red the challenges, and in blue we see the suggestions for improvement.

The model represented on Graph n° 7, explains 843% of the global variance of two factors: The factor "Maternity Role-Couple" is related to the horizontal axes in the map and explains 61% of the variance. It deals with issues related to having children, being in a relationship, and the existence of gender differences. On one side of the axis, we find challenges like the shared leave, and the negative influence of having children in the career development. Additionally, we find suggestions to increase the maternity leave time and the paternity leave as well. On the opposite side, we see the challenges associated with the fact that the partner spends more time taking care of the children and less time with their spouse. In addition, we find here suggestions to improve gender equality. The factor "Maternity-Professional Dependency" is related with the vertical axis in the map, and explains 22% of the variance. It deals with the same issues related to having children and the challenges of being an entrepreneur. It compares the need for maternity leave with the challenges faced by entrepreneurs: not having vacation, not eating lunch at home, the inability to think about other things than work, etc.



Graph 7 Positioning map

The four basic profiles are situated in very different locations in the map, therefore we can characterize them as it follows:

- Woman Entrepreneur with Children: it is a very well defined profile in terms of the factors that make up the map. Their suggestions about balancing work and life

are related to their children: more help to have children, better services for public daycare, and the extension of maternity leave. es un perfil bastante definido en cuanto a los factores que construyen el mapa. In terms of challenges, women entrepreneurs in this profile, explain that having children has a negative impact on their professional careers because after they get home from work, they still do all the domestic work. Finally, one of the motivations to start a business, is the history of entrepreneurs in the family tradition.

- Woman Entrepreneur without Children: this profile suggests the reduction of work hours per week as a solution to better balance life and work. Among the motivations that women in this group mentioned is their desire to remain in the same geographic location and to not have to move because of work.
- Man Entrepreneur with Children: despite having children, this profile opposes the suggested ideas for improvement that are related to having children, even though they remain close to the relationship with spouse factor and the division of roles in the couple. The men in this group recognize that they spend less time with their partners, and that their partners devotes much more time to taking care of the children. They consider relevant the training for gender equality and information about gender equality.
- Man Entrepreneur without Children: far away from the children related environment, their problems are related to the balance of work and life, such as the excessive work dependency. Among the challenges associated with this dependency are the inability to think about things outside work, not eating at home, or not having vacation. One of the motivations to create a new business was to generate more income.

#### Analysis for the detection of interactions (ADI)

The ADI conducted to determine the level of global difficulty to balance work and life has shown no statistical significance, therefore concluding that the challenges found cannot explain the level of difficulty experienced. It is posible that with a larger data set, and as seen in previous sections in this research paper, that we could identify more specific challenges that affect women and men at a global level.

## Conclusions

The existence of more women entrepreneurs is directly related to the policies devoted to create a flexible work Schedule, part-time jobs, half day in exchange of working longer hours the rest of the week, extended maternity leave beyond the established law, leave of absence to care for a family member, time management, training about gender differences in style at work, information about daycare and schools, information about elderly care or for individuals with disabilities, and public daycare services. In contrast, we found that there is an inverse correlation between the participation of women and the following three policies: life insurance, injury insurance, and retirement plans.

In our research study we found that:

- The main motivations to create a business are related to developing personal projects, profesional career development, and the independence of deciding their own future. We found no differences in gender.
- The most habitual challenges in balancing work and life are the lack of time for other activities outside work, the lack of rest, and not having vacation time. In addition, a big challenge still remains to not being able to think about other things besides work.
- Globally, 25% of the entrepreneurs consider that they have many or very many challenges to balance work and life.
- Women entrepreneurs face the challenge associated with taking care of the children and domestic tasks.
- The main suggestions to balance both personal and work life are related to the need to delegate such responsibilities to appropriate resources and the ability to engage in other activities that are not work related.
- There are several differences in opinions between men entrepreneurs and what women think of them.



- When they talk about motivations to start a business, men entrepreneurs give more importance (more than women), to the ability of initiating personal projects, and give less importance to the ability of increasing their income sources.
- For men entrepreneurs it is not such a challenge (like women think of them) the fact that in their families, their partners take care of the children more than them, or the fact that they spend less time with their partners.

In contrast, there are various similarities between the opinions of women entrepreneurs and what men entrepreneurs think of them. Specifically, women entrepreneurs do not magnify the negative aspects of bearing and taking care of the children and the impact of it in their career progression, but men entrepreneurs think women do.

In regards to gender and having children, we have found four basic profiles of men entrepreneurs:

- Women entrepreneurs with children mentioned family aspects when discussing the need to balance work and life. Women entrepreneurs with no children appreciate less work hours and not having to commute or travel for work.
- Men entrepreneurs without children mentioned the lack of free time and the inability to do non work related activities. Men entrepreneurs with children talk more about the need to share more family roles.
- Women entrepreneurs' perceptions about motivations and challenges faced by men entrepreneurs diverge in certain topics. However, men entrepreneurs recognize the motivations and challenges women entrepreneurs face, and give them more importance than women entrepreneurs themselves. As a woman, this fact is indeed considered very alarming given the fact that the majority of hiring individuals are men, and that their perception is that women will cause more problems and challenges than if they hired men. This same idea has been found in personal interviews with men entrepreneurs, in which they suggested that they preferred not to hire women because of the possibility of pregnancy, and in the case they did hire women, men would not want to give women higher degrees of responsibility because they wanted to minimize the challenges associated with pregnancy and maternity leave and so on, on the organization.

## Future research

Given the fact that only women can have children and that they do bear the majority of the responsibilities in bearing and taking care of the children and taking care of the domestic work, facing therefore many challenges, we consider that it is imperative that we assist women in their role as entrepreneur and as a mother. Despite the fact that there has been some improvement and suggestions made by the entrepreneurial sector, and considering the existence of the law 39/ 1999 that promotes balance of work and life for all workers, this study demonstrates that it is insufficient to address the problem. We propose the following suggestions to improve the current situation for women and men entrepreneurs and beyond:

It is critical that women share the domestic work and the roles associated with it, which are mostly culturally assumed. In order to avoid, the assumption of roles related to domestic work, there is a need to not only re-negotiate the roles in the family, but also to foster a culture that values gender equity at all levels in future generations. We suggest that the educational system needs to take responsibility in raising awareness in gender equity, from an early age up to university levels, by introducing courses and activities that promote gender equity and an equal division of tasks and roles.

In the professional arena women should be allowed to reduce their work load so that they can spend more time to their children. Likewise they should be allowed to increase maternity leave periods. If we want men to share family and house related responsibilities, then we need to allow them the time to do it, therefore men should also be able to reduce their workload, and also take paternity leave, or lactancy periods, regardless of the time already give to the woman. If these policies are not applied to both men and women, responsibilities are not going to be shared.

Governments and innovation policies (Martinez-Gomez et al. 2010) play a particularly important role for entrepreneurship development in a transition context, particularly with respect to their role in creating the institutional framework that enables and/or constrains entrepreneurship (Smallbone et al. 2010). There are several suggestions for improvement in the in the political arena that. Pardo-del-Val (2010) believes that policies for the support of women entrepreneurs should aim at strengthening pull motivators and concentrate in designing programmes specifically tailored to the type of business, focusing on long-term policies rather than short-term initiatives. From that point of view, some of them are the following:

- To increase the time for maternity leave and to create independently a paternity leave.

- To make sure independent workers have better conditions in terms of maternity leave, and that it does not affect their taxes.
- To provide funding to support daycare expenses
- To reduce companies' expenses related to expenses generated by maternity and paternity leaves.
- One of the woman entrepreneurs who is also a mother proposed the following: to create a pool of temporary employment that has human resources available to be employed for just the periods when companies need their bosses to leave for some months or some hours a day. This would increase the number of part time employment opportunities at a management level.

All these improvement suggestions may generate an advance in women-owned companies. An advance that may be noticed in the attitude to develop innovative companies in permanent search of e-service value (Lin 2010) and the intention to generate new high-tech venturing projects (Lin et al. 2010), in which, in many cases knowledge networks of innovative businesses grow (Pechlaner and Bachinger 2010).

It is necessary to enhance the importance of effective and consistent public policies (Un and Montoro-Sanchez 2010; Smallbone et al. 2010), but also the supporting services for the SMEs (Pardo-del-Val 2010) in which the founding teams (Wu et al. 2009) are made up by female entrepreneurs. The new perspectives for the managerial entrepreneurship (Ramírez et al. 2010) must consider the situation of women, mothers and female entrepreneurs.

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## ARTÍCULO 3 (adaptado para tesis doctoral)

### **High Growth Firms at university business ecosystems: the birth of the spinup**

Journal of Innovation and Entrepreneurship. Springer Open

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#### **Abstract**

The study of entrepreneurial university business ecosystems and their capacity to produce potentially high-growth businesses is an emerging field of research that adds a significant element to the role of the university in society. This study provides evidence from successful cases of university-based entrepreneurship and suggests novel criteria for measuring the potential of HGFs in this context.

Entrepreneurship is a powerful driver of economic growth and job creation, it creates new companies and jobs, opens up new markets, and nurtures new skills and capabilities. The European Commission (2013) in its current 2020 action plan, proposes three areas for immediate intervention: 1. Entrepreneurial education and training to support growth and business creation 2. Strengthening framework conditions for entrepreneurs by removing existing structural barriers and supporting them in crucial phases of the business lifecycle, 3. Dynamising the culture of entrepreneurship in Europe by nurturing the new generation of entrepreneurs.

Given the fact that around 50% of new businesses fail during their first five years of existence, if European entrepreneurs are to be able to deliver the growth we expect from them, we must devote greater resources to helping them get through this period. Businesses often lack an appropriate ecosystem that will enable them to grow. Vital lifelines can be provided by support services that know their markets and thus significantly increase the success rate of new enterprises. Effective support consists of holistic programmes that integrate essential elements such as management training, R&D coaching, and networking with peers, potential suppliers and clients (European Commission).

Educational institutions should be encouraged to become more entrepreneurial under a wider approach, to ensure that they develop and live a culture of entrepreneurship and innovation through their missions, leadership, stakeholder engagement, curricula and learning outcomes. The role of higher education in entrepreneurship goes far beyond the delivery of knowledge to participating in ecosystems, partnerships and industrial alliances. With high-tech and high growth enterprises increasingly becoming a focus of entrepreneurship-related public policies, higher education institutions are an active component of the innovation policies of Member States and the EU.

### **A theoretical framework of entrepreneurial ecosystems**

Having established the importance of entrepreneurial education and the role that universities can play as a catalyst for entrepreneurship, it is essential to ascertain from a more general perspective how entrepreneurial ecosystems are characterized, and the influence of educational institutions. The goal here is to understand the characteristics of the entrepreneurial ecosystems in cities, regions, etc and see if they are transferable or can be integrated into the creation of university ecosystems.

Several authors (Zacharakis et al, 2003; Napier and Hansen, 2011; Malecki, 2011; Kantis and Federico, 2012; Feld, 2012; Isenberg, 2010) agree on the fact that the term ecosystem in this sense was originally coined by James Moore in an influential article in the Harvard Business Review published during the 1990s. He claimed that businesses don't evolve in a 'vacuum' and noted the relationally embedded nature of how firms interact with suppliers, customers and financiers (Moore, 1993). Rosted (2012) provides what is probably one of the best and simplest definitions, arguing that, in dynamic ecosystems, new firms have better opportunities to grow, and create employment, compared with firms created in other locations.

The FORA model highlights the importance of what it calls 'blockbuster entrepreneurship'. This is a successful entrepreneurial firm that has grown to an exceptional size and has created significant wealth for its founders, investors, senior management and employees. These individuals, in turn, maintain an ongoing involvement in the ecosystem, reinvesting their experience and wealth as mentors, investors and serial entrepreneurs. Isenberg (2010; 2011a) stresses with his 'law of small numbers' that only a handful of entrepreneurial successes are needed to have major benefits for the ecosystem with spillover effects in terms of role models, serial entrepreneurs, angel investors, venture capitalists, board members, advisors and mentors. This is confirmed in various clusters (Mason, 2008).

In short, the presence of a home grown startup that became a global force is a vital narrative in the community: it shows the possibilities of entrepreneurship and the potential rewards of leaving a stable job for the risks of starting your own company. The entrepreneurial ecosystem perspective recognizes that high growth firms make a disproportionate contribution to economic growth and need to be actively fostered to generate further rounds of 'blockbuster entrepreneurship (Mason, 2013).

Within the context of the Babson Entrepreneurship Ecosystem Project, Isenberg (2013) refers to 8 domains of the entrepreneurship ecosystem: policy, finance, culture, supports, human capital and markets. Educational institutions form a part of entrepreneurial ecosystems linked to the generation of human capital according to Isenberg's model.

The question we pose is whether universities play a merely educational role within the larger entrepreneurial ecosystem. Or, on the contrary, can they and should they generate entrepreneurial ecosystems that not only nurture and foster entrepreneurial activity among students through training, but also integrate business and startup incubation within the university on college campuses, thereby creating ecosystems generated by the students themselves, with all the competence benefits that this can bring?

The literature on this topic is somewhat contradictory. As one of the main lines of the European Commission's action plan on, it proposes the creation of entrepreneurial environments within the universities, but the literature also contains a number of detractors, who suggest that this role should be limited, and even bring into question its desirability, in light of the fact that numbers of university spin-off companies are typically small and high growth spin-outs are rare (Harrison and Leitch, 2010). Secondly, Åsterbro and Bazzazian (2011) state that "the median university among the top US research-based institutions creates less than two academic spin-offs per year and so the relative effects on local and regional economic conditions [...] are bound to be marginal.

One of the questions raised in the literature is aimed at whether universities are effective or not as entrepreneurial ecosystems as such, due largely to the fact that their success has been measured solely in terms of university spinoffs. In the current climate, universities must offer the possibility to its students and graduates of creating new firms (Roberts and Eesley, 2011; Åsterbro and Bazzazian), and not only providing space for spinoff companies, who in many cases, suffer from regulatory processes that restrict their natural growth. The study by Åsterbro concludes that transforming university goals and practices toward increasing start-ups led by faculty might not be the most effective way for universities to stimulate entrepreneurial economic development.

## High Growth Firms

The literature describes and characterizes university entrepreneurship in general but, in many cases, we do not know what types of projects are being incubated at universities. The question of what type of firms predominate in entrepreneurial university ecosystems and how we define them leads us inevitably to the concept of High Growth Firms (HGFs).

Policy makers across the OECD are now strongly focused on promoting high growth firms (HGFs) (OECD, 2010; 2013). The rationale for this focus is that HGFs are thought to drive productivity growth, create new employment, increase innovation and promote business internationalization (OECD, 2013; Brown et al, 2014). HGFs do not only create jobs directly; they also have important spill-over effects that are beneficial to the growth of other firms in the same locality (Mason et al, 2009; Du et al, 2013) and industrial cluster (Feldman et al, 2005; Brown, 2011). There is evidence that HGFs also provide an important Schumpeterian stimulus within economies by increasing competition, promoting innovation and increasing the efficient allocation of resources within economies. Certainly, there is evidence that HGFs have above average levels of productivity growth (Mason et al, 2009), high levels of innovation (Coad, 2009; Mason et al, 2009), strong levels of export-orientation (Parsley and Halabisky, 2008) and a high level of internationalisation (BIS, 2010; Mason and Brown, 2010). Recent research also shows that these firms invest heavily in human capital and are more likely than non-HGFs to employ disadvantaged people in the labour market, such as the long-term unemployed and economic migrants (Coad et al, 2014).

Martinez (2010) carries out an exhaustive study, analyzing this term, clearly showing that, at a national and international level, there are a great number of existing studies, but that few of them provide comparable data, with the subsequent conclusion that there is a lack of consensus on how to discuss and define this type of enterprise and the pressing need to progress in its conceptualization to unify criteria. Despite the clear origin of the term coined by David Birch (1979), there is no general agreement on the definition of high-growth firms, neither among authors nor among different countries, and to find a definition that will help to unify criteria at the international level, we have to turn to the OECD (Ahmad, N. 2007). Eurostat and the OECD recommend that HGFs should be defined as firms with at least 10 employees in the start-year with an annual employment growth of more than 20% during a 3-year period HGFs are understood in terms of number of employees as well as in terms of economic turnover (Eurostat-OECD, 2007). Hölzl (2014) used this approach to define HGFs, while Autio et

*al.* (2000) and Halabisky *et al.* (2006) define HGFs as firms that obtained at least 50% sales growth during each of three consecutive financial years. It is also proposed that the term "gazelle" should only apply to high growth companies that are also young, or more specifically, for companies that have existed for less than 5 years.

In short, when studying the literature on HGF's, all the definitions to be found are similar but none is exactly the same. In other studies (Department of Entrepreneurial Management of the IE, edited as AC-E I) we find the definition of a gazelle firm as one that increases its sales figures by at least 15% per annum over 3 consecutive years.

Another study was carried out using a survey with 1,385 SMEs by the Department of Entrepreneurial Management of the IE and the corresponding report was edited as AC-E I, with the support of the DGPYME and the Banesto Cultural Foundation. Some of the conclusions that appear in this report denote novel contributions on the characteristics of gazelle firms in Spain, such as: "A firm or business is not born as a gazelle: an entrepreneurial initiative cannot be characterized as a gazelle when it is being created, as it must exist for at least three years in order to analyze its growth". A firm cannot realistically be a gazelle throughout its lifecycle: maintaining a constant growth rate such as the one demanded in the definition of a gazelle is practically impossible, except under very rare. Firms go through cycles and they can be gazelles at particular moments and cease to be so at others (Martinez 2010)

The literature indicates that HGFs are not exclusively new businesses or startups (Acs *et al.*, 2008; Mason and Brown, 2010; 2013) and it is also patently clear that the definition needs further research, but above all, it opens up new possibilities for educational institutions in order to redefine those firms that can be incubated on their campuses and be potential HGF's and/or gazelles.

## **Methodology**

This literature review leads us to a deeper descriptive analysis of a specific case of an entrepreneurial university ecosystem: the case of StartUPV, the entrepreneurial ecosystem at the Universitat Politècnica de València. We will examine its creation, evolution and whether or not it has been able to foster the creation of gazelle businesses.

The startUPV ecosystem was born with the support of the IDEAS Institute for Business Creation and Development, whose mission is to foster and develop entrepreneurial culture at the university, to promote awareness and dynamize the university community in the creation and development of new innovative and hi-tech businesses. This institute

is recognized as the first university business support programme in Spain (Millet and Willoughby, 2011) and was given the Award for the Promotion of Entrepreneurship by the European Commission in 2009 with more than 5000 entrepreneurs advised and more than 700 startups created. In 2012, the Ideas Institute decided to introduce a network of incubation spaces for firms founded by pupils and/or graduates of the UPV. The main goal of this new service is to bring together the entrepreneurial potential of the UPV in spaces reserved for entrepreneurs within the campus and achieve 5 basic objectives: more startups, more employment, increased and improved resources to form a startup business, and acceleration for startups. In order to achieve these objectives, the university created a roadmap with three differentiated stages: training, incubation and acceleration. This university ecosystem is integrated into the Comunidad Valenciana (an autonomous region within the Spanish state), a region that, in 2015, received the European Entrepreneurial Region (EER) Award. The EER Award recognizes and rewards those European regions that have demonstrated a notable, innovative strategy in the area of entrepreneurship, manifested in concrete, measurable actions, which contribute to the application of the Small Business Act for Europe, and which makes an optimal use of public financing. In this sense, startUPV has been selected as a best practice and was invited by the Regional Committee of the European Commission to disseminate its entrepreneurial university ecosystem model to other member states.

The methodology focuses on the study of the case of startUPV with an initial sample of 82 companies and projects taken from the first 3 years of existence (June 2012 - July 2015) of the ecosystem. For the descriptive analysis, the sample is reduced to 43 companies given the difficulty of integrating into the sample projects or ideas that are not yet fully legally constituted. The analysis also focuses on just one of the 3 campuses of the UPV: the Valencia campus, since, as we have seen in the literature, data from different cities and their ecosystems are not comparable for several reasons, such as the environment, the characteristics and the type of companies, political factors, etc.

In order to obtain the data, we were given access to the data of the Instituto IDEAS with data on the companies housed at startUPV. This database was adapted for scientific analysis.

### **The case of StartUPV: the entrepreneurial ecosystem at the UPV**

We analyzed 43 firms that belong to startUPV over a 3-year time span since the inception of startUPV (2013) up to 3 years of existence (2015). The objective of the descriptive analysis attempts to respond to the question of what type of firms are being



created in entrepreneurial university ecosystems, using the results of a particular case as a starting point.

At a global level, startUPV has grown from 4 firms in its first year to 43 firms incubated in 2015. The aggregated turnover of these firms comes to €8.3 million (see table I) with an annual growth (2013-2014) of 59% and 32% between 2014 and 2015. The total amount of investment received from private investors and public funds comes to €2.6 million with yearly increases of 608% and 64% in the second period of analysis.

TABLE I. Turnover & Investment by year

Year	Turnover		Investment	
	Mean	Total	Mean	Total
2013	63.763	1.020.205	8.620	129.300
2014	101.373	2.635.702	38.158	915.800
2015	133.708	4.679.796	41.783	1.504.200
TOTAL	99.615	8.335.703	29.521	2.549.300

With regard to employment (table II), the number of accumulated jobs created over the last 3 years is 558 employees, with an average of 7 employees per firm. Growth in the number of employees of firms from 2013 to 2014 was 40% and from 2014 to 2015 it reached 30%. Out of the employees hired by these firms, 67% are students or graduates of the UPV.

TABLE II. Number of employees by year

Year	Total
2013	132,00
2014	185,00
2015	241,00
TOTAL	558,00

Another series of data that we have analyzed, given the importance of the business internationalization, is the number of countries to which the companies offer their products and services. We can see that in the first year of life, firms sold to an average of just to 2 countries, but that between the second and third year the average increases to 7 countries with yearly increases of 430% and 1% in the second period.

At the descriptive level and with reference to the definition of OECD and the European Commission of HGF enterprises and gazelles, we analyze data from startUPV to ascertain whether gazelle companies have developed. In this sense, it is convenient to emphasize that the requirement of 10 employees or the €100,000 as a starting point not

been taken into account since this point is not specified in all definitions. In university environments, companies created by students tend to start with small teams (mainly founders) and turnover is low in many cases, as a result of by the characteristics of university-based companies. Many of them are startups who, in their early stage, are looking for a business model and customer discovery. Until their model can be validated, sales are non-existent or very low (Blank et al.2012). At StartUPV, there are 7 firms that comply with the following requisites: 20% growth rate in employees measured on a yearly basis during the first 3 years of existence (majority of cases) of firms housed at startUPV; 50% growth in yearly turnover in each of those 3 years. These 7 firms represent 16% of the total number of firms at the incubator at the time of writing. This number is greater if we consider only one of the requisites, i.e. either employment or turnover. We can therefore find an additional 6 firms with one of these requisites, and 13 firms represent 30% of the total. At startUPV, 1 out of every 3 firms are potential HGFs/ gazelles.

The data shows that 43% of the turnover of the entire ecosystem is generated by these 7 companies with an increase of 326% from period one and two and 113% from period two to three. Although the employment they generate percentage is increasing 144% (first period) and 77% (second period), this is also an important factor to highlight. Funding raised in the first years of life of the companies linked to the university is a key point, since the lack of initial capital is supplemented by public and/or private funding that allows firms to hire employees and establish a viable minimum team (Hustler, Hipster and Hacker) to reach major milestones. The investment received by the 7 companies we have analyzed comes to €1.5 million and represents almost 60% of the total.

## **Conclusion**

Universities are an ideal place for fostering the creation of potential HGFs or gazelle firms. In a recent study, Julia et al (2015) analyze a case of 5 public universities in the region of Valencia in order to characterize this type of university entrepreneurship, comparing it with data for the well-known Global Entrepreneurship Monitor (GEM) study. The results of the study allow us to conclude that university entrepreneurship clearly shows greater entrepreneurial quality with regard to: its innovative nature (which is double the national average), use of advanced technologies, which is also practically double the national figures, international orientation (6 times greater) and capacity for job creation (more than three times the national average).

The data from startUPV indicate that the creation of an entrepreneurial university ecosystem needs at least three years in order to be able to incubate potential HGF firms. The definition of HGF's should be adapted to the university environment. In this case, the criteria laid down in the definition provided by the EC could be modified, taking into account the intrinsic characteristics of firms created in university environments, where, after 3 years, as in the case of the UPV, firms are developing that can be described as potential HGFs. Further research is needed in order to conceptualize a type of potential university HGF or gazelle. Such firms are born, in many cases, as startups in university environments and are developed by students and graduates; people who are familiar with cutting-edge research and spinoff firms. These firms are halfway between startups and spinoff companies. The name we have given to gazelle firms born in university environments is "spinups" or "university gazelles". Spinups are companies in incubation spaces linked to universities (not spin-offs) and that are founded by at least one student or ex-alumni of the university. During the first 3 years of existence (spinup time), these firms must achieve at least 1 of the following criteria: growth in the number of employees should be more than 30% per year (founders do count as employees); employees must be students or graduates of the university by a percentage equal to or greater than 50%; turnover must grow by 50% during the 3 year period; public funding or private investment must grow annually by 50%; the company sells its goods or services in at least 5 different countries from the second year onwards.

This first approach to the concept of spinups is an exploratory study that highlights the need for further research in this field in order to provide adequate parameters and to establish the characteristics of entrepreneurial university ecosystems and their contribution to society. By detailing, or at least limiting, the type of projects that must be accommodated within entrepreneurial university ecosystems can help optimize their growth, not just in terms of quantity, but especially in the quality of the projects that are housed there.

What is clear and must be foremost in the construction of global, local or entrepreneurial university ecosystems, is the inability to copy success stories. Each new ecosystem will be formed on the basis of a history and background that constitute the origin of the success of the ecosystem. The objective of future research should be directed toward the understanding and analysis of common characteristics which can be extrapolated to other ecosystems, a goal that constitutes a major challenge since entrepreneurial ecosystems are unique and inimitable

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# CAPITULO 3

## DISCUSIÓN GENERAL DE LOS RESULTADOS

## 1. INTRODUCCIÓN

En este capítulo resumiremos los principales resultados extraídos de los artículos. Iniciaremos el análisis destacando los resultados de cada uno de los artículos y si se han conseguido los objetivos de la tesis.

## 2. RESULTADOS

La actual tesis es el resultado de un largo proceso de investigación que se sintetiza en el compendio de publicaciones. Como ya se destacó en la introducción de la tesis, este trabajo es el esfuerzo plasmado en la publicación de estos artículos pero además hay otras publicaciones, capítulos de libros y participaciones en congresos que, aunque no aparecen con detalle en este documento, han sido de gran ayuda para poder elaborar la tesis y dotar de un hilo conductor a la misma. A continuación se presentan los objetivos de la tesis y los principales resultados de cada uno de ellos:

### *OBJETIVO 1:*

Describir las características diferenciales existentes entre los jóvenes emprendedores universitarios, los autoempleados y los trabajadores a nivel internacional

Los siguientes resultados muestran las características de los emprendedores universitarios en comparación con los profesionales liberales y los empleados. Los emprendedores tienen buenas notas pero tardan más que el resto en terminar sus estudios de bachillerato. Hay cierta tendencia a la dispersión, probablemente por estar realizando otras actividades. Durante

sus estudios universitarios también dedican más tiempo a otras actividades extraescolares y menos a atender las clases oficiales. Actividades en este caso, relacionadas con: aprender de manera práctica, adquirir experiencia laboral (prácticas en empresas) o formarse en materias específicas. Además, los emprendedores son mucho más críticos con la forma de enseñar de los profesores, destacando la falta de ejemplos vinculados a la vida real como propuesta de mejora.

Los datos muestran que los emprendedores se autoevalúan como más satisfechos con su trabajo. Además, tienen de media ingresos más altos, si bien es cierto, que también trabajan más horas.

#### OBJETIVO 2:

*Conocer y describir las competencias de los emprendedores universitarios*

Los resultados muestran a los emprendedores con un perfil característico en relación a las competencias adquiridas durante su etapa universitaria. Tienen puntuaciones relativamente más altas que el resto en liderazgo y toma de responsabilidades, y relativamente más bajas en gestión del tiempo. En cuanto a las competencias requeridas para los trabajos que realizan una vez terminada la universidad y durante los primeros 4 años de su carrera profesional, los emprendedores tienen diferencias todavía mayores (puntuación más alta) con respecto a los otros dos grupos (autoempleados y empleados por cuenta ajena) en las siguientes competencias: negociación, trabajar independientemente, tomar decisiones y responsabilidades, pensamiento crítico y liderazgo.

### OBJETIVO 3:

*Identificar las motivaciones que llevan a las emprendedoras y a los emprendedores a crear una empresa y ver si existen diferencias.*

No existen diferencias en las motivaciones para emprender. Tanto mujeres como hombres emprenden porque quieren desarrollar su carrera profesional con proyectos propios que les permitan tener independencia para decidir su propio futuro. Aunque las mujeres piensan que los hombres le dan más importancia (que la que realmente puntúan) en conseguir altos salarios como motivación principal para ser emprendedor.

### OBJETIVO 4:

*Analizar las diferencias de género en la conciliación de la vida laboral y personal de los emprendedores.*

En este caso sí que existen diferencias en las opiniones y percepciones que tienen los unos de los otros. Las mujeres destacan como retos de mejora para su conciliación de la vida laboral y personal: el cuidado de los hijos, las tareas domésticas, poder delegar ciertas responsabilidades y tareas a alguien realmente adecuado y pasar más tiempo con sus parejas. Uno de los resultados más importantes es que los hombres reconocen las dificultades y retos que tienen las mujeres emprendedoras a la hora de conciliar la vida personal y laboral mucho más que las propias mujeres emprendedoras.

Los resultados muestran también coincidencias entre emprendedoras y emprendedores al resaltar ambos las dificultades que encuentran para disponer de tiempo para realizar actividades fuera del trabajo, la falta de descanso y no poder disponer de vacaciones. Otro reto importante es conseguir dejar de pensar en el trabajo cuando están con la familia.

#### OBJETIVO 5:

*Conocer el tipo de proyectos/empresas que generan los emprendedores universitarios analizando un caso práctico de un ecosistema emprendedor universitario.*

En este caso, hemos analizado 43 empresas que forman parte de StartUPV, el ecosistema emprendedor de la UPV. Estas empresas son un ejemplo del tipo de proyecto que puede generar una universidad. Los principales resultados de los 3 primeros años de vida de StartUPV se analizan a continuación. StartUPV ha crecido de 4 empresas en el primer año a 43 empresas incubadas en 2015, más 45 proyectos, teniendo un pico máximo de 124 empresas y proyectos. De estas 43 empresas, el volumen de negocio acumulado es de casi 9 millones de euros con un crecimiento interanual (2013-2014) del 59% y del 32% entre 2014 y 2015. En el caso de las 7 empresas seleccionadas como potenciales HGFs, el porcentaje sube a 326% y 113%, lo que nos indica la capacidad de crecimiento en facturación, especialmente entre el primer y segundo año de vida de estas empresas. El empleo generado por el ecosistema acumulado en los 3 años es de 558 empleados con una media de 7 empleados por empresa. De los empleados que contratan estas empresas un 67% los contratan de entre los alumnos y alumni de la propia universidad. La inversión total recibida entre inversores privados y fondos públicos asciende a 2.6 millones de euros con un más que significativo crecimiento interanual del 608% entre el primer y segundo año, y del 64% entre el segundo y el tercer año. La Internacionalización (medida en el número de países en los que venden sus productos/servicios) es de media bastante baja el primer año, 2 países

únicamente. En el segundo y tercer año pasan de media a vender en 7 países.

En StartUPV, encontramos 13 empresas con alguno de los requisitos definidos en la literatura para poder considerarlas como HGF, lo que supone un 30% del total. En el ecosistema emprendedor de la UPV 1 de cada 3 empresas son potenciales HGF y/o empresas gacela.

OBJETIVO 6:

*Describir las posibilidades y retos que las universidades tienen como facilitadoras de ecosistemas de emprendimiento.*

Este objetivo está ampliamente descrito en el siguiente capítulo, donde se analizan las principales conclusiones y los retos que tienen las universidades como facilitadoras de los ecosistemas de emprendimiento.

# CAPITULO 4

## PRINCIPALES CONCLUSIONES

## 1. INTRODUCCIÓN

En este capítulo se resumen las principales conclusiones y cuáles han sido las aportaciones más significativas del doctorando. La tesis concluye con el análisis de las futuras líneas de investigación.

## 2. HIPÓTESIS Y CONCLUSIONES

A continuación se plantean las 3 hipótesis de investigación y las conclusiones asociadas a éstas.

HIPÓTESIS 1:

*Los emprendedores tienen características y competencias diferentes a los autónomos y profesionales liberales.*

La primera conclusión que podemos extraer de los datos analizados es que, a nivel descriptivo, el emprendedor universitario internacional tiene características y competencias diferentes frente a los autoempleados, los profesionales liberales y los empleados por cuenta ajena. Diferencias tanto en el tipo de formación que les hubiera gustado recibir en la universidad (más práctica y con ejemplos reales) como en las decisiones a la hora de enfocar su desarrollo profesional y las competencias adquiridas y requeridas que se necesitan para su desempeño laboral. Los emprendedores y los autoempleados, que en muchos casos han sido analizados dentro de la misma categoría, tienen características diferentes por lo menos a nivel descriptivo. La hipótesis 1 queda resuelta.



## HIPÓTESIS 2:

*Entre los emprendedores existen diferencias de género en las motivaciones para emprender y en la forma de conciliar la vida laboral y profesional.*

En el capítulo anterior ha quedado claro que no hay diferencias de género en las motivaciones que mueven a los emprendedores a constituir una empresa. Mujeres y hombres emprenden porque quieren desarrollar su carrera profesional con proyectos propios que les permitan tener independencia para decidir su propio futuro. Sin embargo, sí que existen diferencias en las opiniones y percepciones que tienen los unos de los otros, en temas relacionados con la conciliación de la vida laboral y personal. La hipótesis dos se confirma sólo en parte. Parece importante conseguir disminuir el número de horas que trabajan los emprendedores, especialmente las emprendedoras al cuidado de niños. En el primer artículo ya se destacó que eran el grupo que más horas semanales dedicaba. Esto podría beneficiar a su descanso físico y posibilitaría la dedicación a la familia y al entorno social. Las políticas públicas pueden favorecer el emprendimiento femenino ayudando a encontrar servicios de apoyo en el cuidado de los niños así como servicio de limpieza con personal cualificado.

## HIPÓTESIS 3:

*Los ecosistemas emprendedores universitarios favorecen la creación de futuras empresas de alto crecimiento por parte de los emprendedores universitarios alojados en ellos.*

Los datos de startUPV evidencian que la creación de un ecosistema emprendedor universitario necesita de al menos tres años para crear potenciales empresas de alto crecimiento. Los crecimientos a nivel de facturación, empleados, financiación e internacionalización son especialmente relevantes entre el primer y segundo año de vida,

reduciéndose posteriormente entre el segundo y el tercer año. Este hecho se acentúa en el caso de las empresas consideradas como gacelas universitarias o spinups. En este caso, confirmar la hipótesis es complicado, simplemente se puede afirmar, con los datos del caso que se ha analizado, que 1 de cada 3 empresas son futuras empresas de alto crecimiento. Las limitaciones del estudio son evidentes. Únicamente se han analizado datos a nivel descriptivo y además basado en un único caso de estudio. Este hecho, no permite confirmar empíricamente si las universidades son las que realmente facilitan la creación de empresas de alto crecimiento. Nuevas variables deben incorporarse en las próximas investigaciones para confirmar que las spinups son empresas con características propias.

### 3. PRINCIPALES APORTACIONES

En este apartado se destacan las principales aportaciones de esta tesis:

1. Poder aportar datos empíricos a la conclusión general de la literatura sobre la dificultad de diferenciar a los emprendedores del resto de la población ha sido una de las mayores aportaciones de esta tesis. El primer artículo ofrece patrones y tendencias para diferenciar a los emprendedores de los autoempleado-autónomos y de los empleados (en el sector privado, público y ONGs). Además, estas diferencias son, si cabe, mayores al utilizar una muestra internacional con los datos del proyecto europeo CHEERS (Careers after Higher Education — A European Research Survey) y las respuestas a la encuesta que compara la situación de los jóvenes graduados universitarios europeos (Schomburg & Teichler, 2005).

2. Poder caracterizar al emprendedor universitario, conocer sus competencias adquiridas (durante su estancia en la universidad) y aquellas requeridas (y demandadas en sus puestos de trabajo) puede considerarse una aportación válida para construir un perfil de emprendedor universitario global.
  
3. Conocer las motivaciones de los emprendedores y ver si existen diferencias de género, puede ayudar a las políticas de fomento del emprendimiento a la hora de optimizar los recursos necesarios para ayudar a afrontar las dificultades en la conciliación de la vida profesional y personal de las emprendedoras y los emprendedores. Iniciativa que la Comisión Europea destaca dentro de su Plan de Acción sobre Emprendimiento para 2020 como un eje estratégico con el objetivo de crear una plataforma específica para fomentar el emprendimiento femenino tan necesario hoy en día.
  
4. Aportar un estudio concreto y descriptivo sobre la creación de ecosistemas universitarios es uno de los retos más singulares de esta tesis. Los datos de StartUPV evidencian, como se ha visto anteriormente, que la creación de un ecosistema emprendedor universitario necesita de al menos 3 años para crear empresas de alto crecimiento.
  
5. La posibilidad de conceptualizar un nuevo tipo de empresa denominada "Spinup". Estas nuevas empresas cumplen muchos

de los requisitos para ser una HGF o gacela pero con unas características específicas: nacidas en muchos casos como startups en entornos universitarios y desarrolladas por alumnos, cercanas a la investigación más puntera y a las spinoffs. Esta es la primera definición de un nuevo concepto de empresa "Spinup" que no deja de ser un intento por dotar de mayor rigor a los proyectos nacidos y acelerados en las universidades.

Poder detallar o por lo menos limitar el tipo de proyectos que deben acoger los ecosistemas emprendedores universitarios, no en cuanto a la cantidad de proyectos incubados sino, más bien, a la calidad de los mismos, es probablemente, un desafío que actualmente muchas universidades van a tener que afrontar.

## 4. FUTURAS LÍNEAS DE INVESTIGACIÓN

Continuar con la caracterización del emprendedor pero focalizando el análisis en los emprendedores vinculado a entornos universitarios es un reto todavía vigente. La comparativa de empresas a nivel internacional, en muchos casos, no permite diferenciar por tipo de empresas (startups, spinoffs, Empresas de Base Tecnológica, etc.) por lo que, los resultados son difícilmente comparables. Futuras investigación pueden aportar datos que ayuden a políticos y legisladores a definir nuevos tipos de empresas de manera estandarizada y aceptada internacionalmente.

Una nueva línea de investigación podría definir el emprendimiento teniendo en cuenta las posibles diferencias entre los emprendedores individuales (autónomos), las profesiones liberales y los emprendedores que constituyen una empresa. Se ha conseguido diferenciar a emprendedores de

autónomos (empresarios individuales) pero sigue pendiente averiguar si tienen el mismo perfil los autónomos, profesionales liberales y emprendedores.

Existe una cultura muy extendida que no reconoce ni recompensa suficientemente las iniciativas empresariales ni ensalza a los emprendedores que triunfan, como modelos que crean empleo y riqueza (Comisión Europea, 2013). Para que el emprendimiento se convierta en el motor de crecimiento de nuestra economía, se necesita una amplia y profunda revolución cultural. Definir con exactitud las características de los emprendedores de "éxito" y cómo lo han alcanzado es un reto para la investigación. Los resultados muestran que los emprendedores son los que se autoevalúan como más satisfechos con lo que hacen. Este dato puede ser ampliamente analizado para fomentar y apoyar el emprendimiento entre los universitarios y su relación con la satisfacción personal y la felicidad como variables dentro de la ecuación del éxito.

La investigación sobre el potencial emprendedor de la mujer, puede dirigirse hacia el análisis de casos de éxito de programas de apoyo y financiación de este colectivo. El objetivo es claro, conseguir minimizar las dificultades de acceso a formación, financiación y networking que, en muchos casos, padecen las emprendedoras. La CE, ha creado un programa específico para dotar de recursos a este colectivo.

La investigación en el campo de los ecosistemas emprendedores universitarios y los espacios de incubación –aceleración está en plena ebullición. Las necesidades son múltiples, desde estudios rigurosos de casos de éxito hasta análisis comparativos a nivel internacional con muestras amplias. Analizar los servicios que se les puede ofrecer a los emprendedores

y/o cuáles deben priorizar las universidades de cara a hacer un uso eficiente de los recursos (en muchos casos públicos) se antoja como un tema de futuros estudios. Los recursos de que dispondrán las empresas durante sus estancias en los ecosistemas emprendedores universitarios necesitan un análisis detallado.

Los resultados que se desprenden de esta tesis evidencian que los emprendedores universitarios están demandando un tipo de educación mucho más práctica y vinculada a la vida real con ejemplos concretos. La adquisición de las competencias durante su desarrollo en la carrera y las competencias que efectivamente demanda la sociedad, en muchos casos, no están relacionadas. Hay una serie de competencias que necesitan mayor análisis por su vinculación con los emprendedores: negociación, trabajar independientemente, tomar decisiones y responsabilidades, pensamiento crítico, liderazgo y gestión del tiempo. Los resultados han demostrado que a los emprendedores se les demanda a nivel competencial más que al resto, a la hora de desarrollar su trabajo ¿Está realmente ofreciendo la Universidad este tipo de cursos y recursos? ¿Están adaptados para las emprendedoras y los emprendedores?

Futuras investigaciones deben de focalizarse en definir con exactitud, y dejar claro, que el emprendimiento no debe ser entendido como unos servicios iguales y estandarizados para todas y todos los emprendedores y sus empresas, sino más bien, se debe investigar para ofrecer los servicios más demandados por los emprendedores, en base al tipo de proyecto de empresa que van a crear. Además, es importante diferenciar las fases que acontecen en los ciclos de vida de las startups, para poder categorizarlos y optimizar la ayuda disponible. En el caso de ser startups, hay que profundizar en el concepto de web startup o web emprendedores ya que, como ha puesto de manifiesto la CE, son una categoría específica de

emprendedores que necesita apoyo extra por tener mayores riesgos al operar en entornos de gran incertidumbre.

Otro aspecto no menos importante, es la necesidad de concienciar a los emprendedores, grandes empresarios e instituciones públicas y privadas del beneficio mutuo que supone generar ecosistemas donde ya existan y sean un referente, las grandes empresas de éxito (o incluso en ciclos de vida maduros y decadentes). Las sinergias de estas grandes empresas con las startups, suponen el renacer de nuevas ideas y mejoras en sectores tradicionales que necesitan innovar para mantener sus niveles de crecimiento. El hecho de disponer dentro de los campus universitarios de grandes empresas con un largo historial de colaboración con la universidad podría favorecer el contacto directo entre los emprendedores nacientes y las empresas con experiencia en el mercado. La cooperación y co-creación entre todos los implicados favorece este proceso de innovación abierta.

Otro aspecto que debería analizarse con más detalle es la importancia de crear ecosistemas y, en este caso, programas de fomento del emprendimiento que no sólo se centren en la búsqueda de emprendedores nuevos. Se puede fomentar el emprendimiento haciendo accesible a los alumnos, que no son emprendedores, la posibilidad de hacer prácticas, becas, voluntariado, etc., en una startup que esté alojada en la universidad. Esta experiencia se prevé como de gran valor para los alumnos ya que en una startup pueden apreciar de una manera mucho más directa el funcionamiento de una empresa. Los niveles de responsabilidad que pueda adquirir el alumno probablemente sean bastante superiores a las prácticas realizadas en grandes corporaciones. Este dato requiere de mayor

investigación, lo que es innegable es que los programas de emprendimiento universitario deben ampliar su rango de posibles usuarios a todos los alumnos, sean o no emprendedores.

El hecho de utilizar recursos públicos para alojar empresas privadas debe propiciar un mayor control y transparencia de los proyectos seleccionados para estar alojados en las incubadoras universitarias. De ahí la necesidad de vincular claramente, las empresas incubadas con la investigación generada en la propia universidad y demandada por los ciudadanos y empresas locales. La gratuidad o no de este tipo de servicios abre un debate no exento de polémica.

Las universidades son incubadoras naturales de proyectos empresariales que ayudan a solucionar retos demandados por la sociedad, generan empleo cualificado y mantienen ritmos de crecimiento cercanos a las empresas denominadas HGFs. Estas características unidas a la fuerte visión internacional, tecnológica e innovadora de estos proyectos universitarios, postulan a la universidad como una candidata referente en la apuesta por la creación de empresas spinups.

Lo que queda claro y debe ser un referente en la construcción de ecosistemas emprendedores, sea cual sea su ámbito de actuación (globales, locales, universitarios, etc.) es la imposibilidad de copiar los casos de éxito. Cada nuevo ecosistema se formará en base a una historia y antecedentes que constituyen el origen del éxito del ecosistema. El objetivo de las futuras investigaciones debe ir dirigido hacia la comprensión y análisis de las características comunes que puedan ser extrapolables a otros ecosistemas, lo cual, supone un importante reto ya que los ecosistemas emprendedores son únicos e irrepetibles.





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# ANEXOS

## ANEXO 1

### Renuncias Coautores



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

ESCOLA DE DOCTORAT

D./D<sup>a</sup>: Jose-Gines Mora

Coautor de la publicació: *Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates. European Journal of Education, Vol.42, Iss.1, pages 99-117, March 2007.*

Declaro su aceptación para que el doctorando presente el trabajo como tesis o parte de su tesis, a la vez que expresa su renuncia a presentar este como tesis o parte de otra tesis doctoral

Declaración exigida como requisito por la normativa institucional de la U.P.V. (11.4.e de la normativa institucional)

Fecha y firma 20-October-2015



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

ESCOLA DE DOCTORAT

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D./D<sup>a</sup>: Luis Eduardo Vila Lladosa

Coautor de la publicació: Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates. European Journal of Education, Vol.42, Iss.1, pages 59-117, March 2007.

Declaro su aceptación para que el doctorando presente el trabajo como tesis o parte de su tesis, a la vez que expresa su renuncia a presentar este como tesis o parte de otra tesis doctoral

Declaración exigida como requisito por la normativa institucional de la U.P.V. (11.4.e de la normativa institucional)

Fecha y firma 20 de Octubre 2015

Fdo: Luis E. Vila





UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

ESCOLA DE DOCTORAT

D./D<sup>a</sup>: Helena Knorr

Motivations and differences upon reconciling professional and personal life: an empirical study of businesswomen and businessmen in the Valencian Community. *International Entrepreneurship and Management Journal*, 7(3), 391-412.

Coautor de la publicació

Declaro su aceptación para que el doctorando presente el trabajo como tesis o parte de su tesis, a la vez que expresa su renuncia a presentar este como tesis o parte de otra tesis doctoral

Declaración exigida como requisito por la normativa institucional de la U.P.V. (11.4.e de la normativa institucional)

Fecha y firma

Helena Knorr 21/10/15



D./D<sup>a</sup>: M<sup>a</sup> Dolores Garzón Benítez

Coautor de la publicació:

MOTIVATIONS AND DIFFERENCES UPON RECONCILING PROFESSIONAL AND PERSONAL LIFE (AN EMPIRICAL STUDY OF BUSINESSWOMEN AND BUSINESSMEN) IN THE VALENCIAN COMMUNITY. International Entrepreneurship and Management Journal, 7(3), 391-412.

Declaro su aceptación para que el doctorando presente el trabajo como tesis o parte de su tesis, a la vez que expresa su renuncia a presentar este como tesis o parte de otra tesis doctoral

Declaración exigida como requisito por la normativa institucional de la U.P.V. (11.4.e de la normativa institucional)

Fecha y firma

21/10/15

## ANEXO 2

### Carta de Aceptación

Marta Peris-Ortiz

Associate Professor at Universitat Politècnica de València

Senior Associate Editor of Journal of Innovation and Entrepreneurship (JIE)

Camino de Vera s/n,

46022 Valencia, Spain

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Ignacio Gil Pechuán

Universitat Politècnica de  
València

[igil@doe.upv.es](mailto:igil@doe.upv.es)

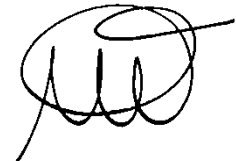
Valencia, October 17 2015,

Dear Dr. Ignacio Gil Pechuán,

It is a pleasure to announce you that your article “High Growth Firms at University Business Ecosystems: the Birth of the Spinup” co-written with Daniel Martinez Acebes and José Millet Roig, has start the process of peer review at Journal of Innovation and Enptrepreneurship.

Thank you for considering JIE for publication of your paper and I wish you luck with the revision process.

Yours sincerely



Marta Peris-Ortiz

Senior Associate Editor JIE

## ANEXO 3

### Artículos en Revistas

# 1. Las competencias de los graduados universitarios europeos.

Autores: CEGES-PF

CEGES-PF es un grupo de investigadores basado en el Centro de Estudios en Gestión de la Educación Superior de la Universidad Politécnica de Valencia ([www.ceges.upv.es](http://www.ceges.upv.es)). Coordinado por José-Ginés Mora (Universidad Politécnica de Valencia), está formado por Lourdes Badillo (Universidad Politécnica de Cartagena), Andrea Conchado, José-Miguel Carot, Mónica Martínez y Daniel Martínez (Universidad Politécnica de Valencia), Jose-María Nyssen (ANECA) y Luis Vila (Universidad de Valencia).



Publicación: Panorama Social, (6), 10-21. 2007 (Ejemplar dedicado a: La reforma de la Universidad, vectores de cambio), págs. 10-21

Editor: Fundación de las Cajas de Ahorros (FUNCAS)

ISSN: 1699-6852

## Resumen

¿Qué competencias precisan los graduados universitarios para insertarse en un mercado de trabajo caracterizado por la creciente competición global y la rápida difusión de información y conocimientos? Encuestas realizadas a graduados ya ocupados de diferentes países europeos ponen de relieve que las competencias más demandadas en los puestos de trabajo no son las que tradicionalmente ha proporcionado la Universidad. El contexto socioeconómico y tecnológico ha cambiado tan profundamente en los últimos tiempos que exige una transformación del paradigma hasta ahora dominante en la enseñanza universitaria. La Universidad se encuentra ante el reto de enseñar –además de conocimientos técnicos y teóricos– destrezas y habilidades metodológicas, sociales y participativas que mejoren la posición de los graduados en el mercado de trabajo globalizado y la sociedad del conocimiento.

## ANEXO 4

### Capítulos de Libros

## Y TÚ..., ¿Innovas o Abdicas?



Autor: Justo Nieto Nieto

Editor: Universitat Politècnica de valència

ISBN: 978-84-8363-870-5

Publicado: 2014

Colaboración en el Capítulo 18 (pág. 274-304):

### Capítulo 18: Plan de Emprendimiento para la Universidad:

- ALGUNOS COMENTARIOS SOBRE LOS RESULTADOS DE LA FORMACIÓN UNIVERSITARIA
- EL EMPRENDIMIENTO UNIVERSITARIO MASIVO COMO OBJETIVO RAZONABLE
- UN PLAN: HERRAMIENTAS Y OPORTUNIDADES PARA EL EMPRENDIMIENTO
  - DESCRIPCIÓN DEL PLAN
  - DESCRIPCIÓN DE LAS FASES
  - DESCRIPCIÓN DE LOS INSTRUMENTOS
- CASO DE MODELO DE NEGOCIO DE ÉXITO EN EL ENTORNO UNIVERSITARIO: "BOATSTAR"



## Informe CyD 2007



Autor: CEGES-LMPF

Editor: Fundación Conocimiento y Desarrollo

ISBN: 9788461235780

Publicado: 2008

Colaboración: monografía (pág. 387-410)

CEGES-LMPF es un grupo de investigadores basado en CEGES, Universitat Politècnica de València (UPV) ([www.ceges.upv.es](http://www.ceges.upv.es)). Está coordinado por José-Ginés Mora (UPV) y formado por Lourdes Badillo (Universidad Politécnica de Cartagena), Andrea Conchado (UPV), José-Miguel Carot (UPV), Mónica Martínez (UPV), Daniel Martínez (UPV), Jose-Maria Nyssen (ANECA) y Luis Vila (Universitat de València).

Monografía: **El mercado de trabajo y las competencias profesionales de los jóvenes graduados: resultados del Proyecto REFLEX.**

1. Introducción
2. Las condiciones del mercado de trabajo
3. La transición de los estudios al trabajo
4. Competencias de los jóvenes graduados
5. Valoraciones subjetivas de los jóvenes graduados
6. Conclusiones e implicaciones

## ANEXO 5

### Participaciones en Congresos

## 1. A Self-Assessment Tool For Business Models And Automatic Generation Of Business Opportunities

Congreso: Third Conference of the CARPE Consortium on Applied Research and Professional Education (Manchester 04-06/11/2013)

----- Mensaje reenviado -----

De: "Consortium of applied research and professional education" <[carpe@mmu.ac.uk](mailto:carpe@mmu.ac.uk)>

Fecha: 3/10/2013 13:09

Asunto: FW: Final confirmation of CARPE programme and details re booking and poster submission.

Para: "Israel Griol-UPV.es" <[igriol@fgvm.upv.es](mailto:igriol@fgvm.upv.es)>, "dmartinez@ideas.upv.es" <[dmartinez@ideas.upv.es](mailto:dmartinez@ideas.upv.es)>

Cc: "Susan Baines" <[S.Baines@mmu.ac.uk](mailto:S.Baines@mmu.ac.uk)>

Dear Israel Griol-Barres and Daniel Martinez,

I am very pleased to inform you both that your paper, 'A self-assessment tool for Business Models and Automatic Generation of Business Opportunities', has been accepted as a presentation by the entrepreneurship theme leaders. Your presentation is scheduled to take place between 10:45am and 12:45pm on Tuesday 5th November. You will have approximately 20 minutes to present your paper.

As you have already sent us your full paper, all you need to do now is send us your presentation slides by no later than October 25<sup>th</sup>. Please send these to the CARPE inbox [carpe@mmu.ac.uk](mailto:carpe@mmu.ac.uk)

2. **Young entrepreneurs innovate in Europe, what makes them different?**

Congreso: INBAM 2010: Creativity and Innovation in an International Context (Valencia, 01/06/2010).



3. **Actividades para dinamizar el emprendimiento y la innovación entre el alumnado. La experiencia del Instituto IDEAS-UPV**

Congreso: 2º Congrés educació tecnològica CEDUTEC (Valencia, 24/2/2012)



**TÍTOL de la PONÈNCIA / COMUNICACIÓ / PÓSTER:**

Actividades para dinamizar el emprendimiento y la innovación entre el alumnado. La experiencia del Instituto IDEAS.

AUTOR / A: Millet-Roig, J., Talón-Renuncio, J., Martínez-Aceves, D., Ayats-Sall, J.C.

**TEMÀTICA:**

- Projectes i experiències innovadores en Tecnologia
- Cultura tecnològica i ciutadania
- Educació tecnològica i eixides professionals
- Inclusió de competències i interdisciplinarietat

**Actividades para dinamizar el emprendimiento y la innovación entre el alumnado. La experiencia del Instituto IDEAS.**

#### 4. The profile of Young entrepreneurs

Congreso: 5th CONIDEAS Conference (Valencia, Nov.2008)

TITLE:  
POSTER: THE PROFILE OF YOUNG ENTREPRENEUR



UNIVERSIDAD  
POLITECNICA  
DE VALENCIA

This is to certify that Mr./Mrs. DANIEL MARTINEZ ACEVES, with ID/Passport No. 24362716,  
presented a paper to the 5<sup>th</sup> CONIDEAS CONFERENCE

A handwritten signature in blue ink, appearing to read 'JM', is written over a horizontal line.

Conference President  
JOSE MILLET ROIG  
Valencia, NOVEMBER 2008

Núm.Reg: 09/535

Núm.Reg: 09/535

## 5. New Frontiers in Higher Education management Models

VALENCIAGLOBAL2006 (Valencia 16 nov.2006)



### ESCUELA TÉCNICA SUPERIOR DE INGENIERIA DEL DISEÑO UNIVERSIDAD POLITÉCNICA DE VALENCIA

D. Enrique Ballester Sarrias, Director de la Escuela Técnica Superior de Ingeniería del Diseño de Valencia

#### HACE CONSTAR

Que Daniel Martínez ha participado en VALENCIAGLOBAL2006, presentando el trabajo titulado:

New Frontiers in Higher Education Management Models

En Valencia, a 16 de noviembre de 2006



Enrique Ballester Sarrias





