# Dipartimento di scienze economiche, aziendali, matematiche e statistiche "Bruno de Finetti"

Research Paper Series, N. 1, 2018

# I get by with a little help from my university: A case analysis of entrepreneurial contests across European universities

CHIARA BONOMO

Università degli Studi di Trieste

GUIDO BORTOLUZZI (Ph.D.)

Dipartimento DEAMS Università degli Studi di Trieste Via dell'Università, 1 34127 Trieste



#### Acknowledgments

Questo paper ha beneficiato dei Fondi per la Ricerca di Ateneo (FRA 2016) dell'Università degli Studi di Trieste, progetto "Strategie competitive del sistema agroalimentare Italiano di adattamento agli scenari futuri: innovazione, sostenibilità, sicurezza alimentare, specializzazione territoriale".

#### Research Paper Series

Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche "Bruno de Finetti" Via dell'Università, 1

34123, Trieste Tel.: +390405587927

Fax: +390405587005

http://www.deams.units.it

EUT Edizioni Università di Trieste Via E.Weiss, 21 - 34128 Trieste Tel. +390405586183 Fax +390405586185 http://eut.units.it eut@units.it

ISBN: 978-88-8303-909-6



# I get by with a little help from my university: A case analysis of entrepreneurial contests across European universities

CHIARA BONOMO Università degli Studi di Trieste

GUIDO BORTOLUZZI (Ph.D.)

Dipartimento DEAMS

Università degli Studi di Trieste

Via dell'Università, 1

34127 Trieste

## ABSTRACT<sup>1</sup>

Traditionally, Universities have been seen as the main provider of base research to be later transformed into innovation by firms. However, in the last years, we have been assisting to a slight repositioning of Universities within the ideal "innovation chain". In particular, an increasing number of Academic institutions started organizing and managing entrepreneurial programs aimed at awarding, but also supporting, the successful transformation of research-based ideas into innovation and, at the same time, the conversion of students and researchers into entrepreneurs (Fini, 2011, 2017).

The aim of this white paper is to discuss this phenomenon by presenting a selection of 15 entrepreneurial contests carried out by several European universities. Our goal is to identify typologies, commonalities, (potential) inconsistencies and best practices out of such contests.

KEYWORDS: DEAMS; entrepreneurship; universities; spin-off; contests.

<sup>&</sup>lt;sup>1</sup> **Corresponding author:** Guido Bortoluzzi, Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche "Bruno de Finetti", via dell'Università, 1, Trieste, email: <a href="mailto:guido.bortoluzzi@deams.units.it">guido.bortoluzzi@deams.units.it</a>; tel: +39 040 5583130

## 1. Introduction

This document will provide authors with the basic DEAMS formatting guidelines. The following sections will outline the guidelines and formatting for text, math, figures, and tables using Microsoft Word and MathType.

When thinking to academic entrepreneurship, the MIT (Massachusetts Institute of Technology) comes immediately to mind. MIT professors and students have successfully launched in the market thousands of companies, creating more than 5 million of jobs and generating more than 2 trillion in annual revenue (MIT 2015).

The MIT is undoubtedly the uncontested world leader in fostering academic entrepreneurship. However, especially in the last decade, many European Universities have been trying to follow a similar path.

Student competitions can have different shapes. The most common are:

- Idea competitions, which are the simplest ones and award ideas for new products/services
- Business plan competitions which tend to be more articulated since, beyond a good idea, participants are also requested to produce a formal business plan;
- Start-up competitions which participation is limited to newly founded firms

Even the role played by Universities can be different depending on the activities performed. An interesting contribution at this regard is the one by Jansen et al. (2015), and their SEEM model (Three Stage Student Entrepreneurship Encouragement Model), which depict the several possible roles played by Universities in an ideal "innovation supply chain" (Figure 1). Universities can encourage and motivate students to produce new ideas (*Educate* phase). They could stimulate the transformation of new ideas into real firms (*Stimulate* phase), and they could offer mentoring and supporting services to newly founded firms (*Incubate* phase).

Stimulated by such phenomenon, we carried out an explorative research aimed at deepening and comparing various student competitions in the European contest. Such competitions have been selected as follows:

First, we looked for competitions reserved (fully or mainly) to students (of any level—undergraduate, graduate, PhD), university researchers and university staff. Second, we looked for contests organized and managed by universities and not just sponsored by universities. Third, we excluded incubation and acceleration services provided on rolling bases. However, we accepted contests providing acceleration and incubation services in within. Finally, we looked for European competitions that were active in the years 2016 and/or 2017, thus excluding competitions no longer organized.

To find out the competitions, we employed a web search engine (Google) using and combining different keywords such as "university", "competition", "entrepreneurship", "start-up", "spin-off", "business plan", "idea" etc. We conducted our research in English. However, competitions in different languages were also considered when the language was known to the research team.

In the following pages, we discuss and compare the results of our search. The number of tables used exceeds the number of universities considered, because some universities organize more than one contest per year.

#### FIG. 1. The SEEM model (source: Jansen et al. 2015)

In total, 15 competitions are presented and compared from the following universities:

- Imperial College London (England);
- Technical University of München (Germany);
- University of Edinburgh (Scotland);
- University of Bristol (England);
- Loughborough University (England);
- The Royal Agricultural University (England);
- Tallinn University of Technology (Estonia);
- University of Manchester (England);
- University of Brighton (England);
- Technical University of Valencia (Spain).

Each competition was compared according to the following fields:

- Name of the university;
- Name of the competition;
- Short description of the competition;
- Admission criteria;
- Evaluation criteria;
- Length;
- SEEM stage(s) (Educate; Stimulate; Incubate);
- Awards;
- External sponsors and supporters;

- Additional services provided to participants;
- Organizational team;Website of the competition.

#### **Results** 2.

Name of university	Imperial College London
Name of competition	Althea-Imperial Programme
Short description	The program consists of workshops; at the end participants can submit their ideas.
Admission criteria	<ul> <li>Be a woman</li> <li>Submission by individuals or teams</li> <li>Finalists must be present to pitch the idea at the final event</li> </ul>
Evaluation criteria	<ul> <li>The applicant's innovative/entrepreneurial spirit and approach;</li> <li>Creativity, imagination and ability to think outside the box;</li> <li>Market potential of the idea/concept/enterprise being proposed</li> </ul>
Length	Not specified.
SEEM stage(s)	Educate.
Awards	The winning team receives £10,000
Sponsors/supporters and their characteristics	Sponsors and supporters are not specified, however external partners can support the prize through: - mentoring; - expert advice; - championing.
Additional services	<ul><li>high-profile speakers;</li><li>one-to-one mentoring;</li><li>workshops.</li></ul>
Organizational team	Althea Foundation, an internal group of the Imperial College
Other	Winner of 2016: An undergraduate student of Biochemistry, developed CustoMem; novel membranes that selectively capture and recycle micro-pollutants, including heavy metals.
Website	http://www.imperial.ac.uk/students/enterprising-students/althea- imperial-programme/about-the-programme/

Name of university	Imperial College London
Name of competition	Faculty of Natural Sciences Make-A-Difference!
Short description	The competition consists of three stages, the aim is to develop a low-cost technology that could have an impact on society.  Stage 1: Ideas and team-building workshops that will bring together students from different departments.  Stage 2: teams work to develop the idea.  Stage 3: Funding to the top three teams, lab space and a bursary to work on their projects for 8 weeks over the summer. On the completion of their research, teams will submit a detailed summary and give a presentation of the project to the panel of judges.
Admission criteria	The competition is open to all undergraduate students within the Faculty of Natural Sciences (Chemistry, Life Sciences, Mathematics and Physics) and to team members from other Faculties.
<b>Evaluation criteria</b>	Not specified.
Length	In 2017, From January to October
SEEM stage(s)	Educate – Stimulate.
Awards	The winning team will receive a £1,000 prize
Sponsors/supporters and their characteristics	Not specified.
Additional services	To the top three teams: - funding (£1,500 each); - lab space; - bursary (£1,760 per student to cover living costs over the summer) to work on their project for 8 weeks over the summer
Organizational team	Faculty of Natural Sciences of the Imperial College London
Other	Winner of 2016: team LipidSense, who presented their idea for a simple and rapid test of peroxide concentration in frying oil to determine if it is suitable and safe for consumption and re-use.
Website	https://www.imperial.ac.uk/natural-sciences/education-and-teaching/fons-mad/

Name of university	Imperial College London
Name of competition	Student Challenges Competition
Short description	It is an annual competition. Participants are required to develop an idea regarding an innovation for the health-care sector.  At the end, 5/7 semi-finalists (they must pitch their idea in front of an audience and a panel of global health experts at the annual event to find the winner).
Admission criteria	<ul> <li>The competition is open to all University students registered at a UK academic institution and can cover any aspect of global health innovation; participants can enter as a group or individually.</li> <li>The entry can either be linked to an end-of-year project/PhD thesis or a separate global health initiative to be developed further.</li> <li>Applicants must be currently registered as a student or have recently completed their course and are waiting to graduate.</li> <li>Application with compulsory video illustrating the project.</li> </ul>
Evaluation criteria	<ul> <li>Specific characteristics: technical/clinical/business innovation;</li> <li>Potential impact on global health;</li> <li>Implementation and feasibility.</li> <li>In addition, for the annual event, judges look for the quality of the presentation and the global impact that the idea is providing.</li> </ul>
Length	From January to March.
SEEM stage(s)	Educate – Stimulate (partial).
Awards	- Winner: £5,000 - Runners up: £2,500 - Audience Choice: £1,000
Sponsors/supporters and their characteristics	Not specified.
Additional services	Not specified
Organizational team	Institute of Global Health Innovation, and each university's internal research centre, that covers a broad range of disciplines and specialties.
Other	In relation to the 2015/16 competition, the winning team' project concerned a new method for testing tuberculosis.  In relation to the 2016/2017 competition, the winning team was composed of a student of The University of Cambridge and one of the Imperial College London. They developed life-saving vaccine cooling and delivery system 'SMILE', which aims to deliver vaccines to the 19 million unvaccinated children living in the most

	remote areas of the world.
Website	http://www.imperial.ac.uk/global-health-innovation/student-
	hub/student-challenges-competition/

Name of university	Imperial College London
Name of competition	Venture Catalyst Challenge (VCC)
Short description	The goal is to ensure that all participants gain a strong foundation in building a venture. Aim at testing the commercial viability of early-stage science and technology ideas.
Admission criteria	Open to all students
Evaluation criteria	Not specified.
Length	Six weeks: from January to March
SEEM stage(s)	Educate (partial) - Stimulate – Incubate (partial).
Awards	The winning team will receive a £10,000 prize
Sponsors/supporters and their characteristics	Not specified.
Additional services	<ul> <li>Formative workshops</li> <li>Professional business coaching</li> <li>One-to-one expert advice</li> <li>A chance to pitch in front of 400 investors, influencers and change makers</li> </ul>
Organizational team	Imperial College London
Other	Previous participants to the VCC have raised an amount of £11Mln in proof-of concept funding and have then participate to 12 accelerator programs. Past projects include: dental practice management software; DNA research engines for genetic experimentation.  Considering the 2017 competition, 310 teams applied and only 7 were selected as finalists.
Website	http://www.imperialenterpriselab.com/index.php/vcc-2017/

Name of university	Technical University of Munchen (TUM)
Name of Competition	TUM IdeAwards
Short description	Competition takes place once a year, organized to motivate scientists/students to develop their ideas into innovative/competitive spin-offs.  Two phases:  1. A short description of the business idea is first submitted online;  2. Submission of specific documents in a second phase.
Admission criteria	<ul> <li>The IdeAward is reserved to scientists and graduates of the Technische Universität München (TUM).</li> <li>Participation in the competition can be as individuals or in team. Each person and team may submit one idea only.</li> <li>A team must contain 50% of TUM scientists or graduates. The other 50% can students or external members. An individual must be a TUM scientist or graduate.</li> <li>Ideas that have already been implemented in existing companies or companies where related business activities have already been initiated, are excluded from participating. This condition also applies where the company was founded outside Germany.</li> <li>Reapplication is possible.</li> <li>Founding may not take place until the prize is awarded.</li> </ul>
Evaluation criteria	<ul> <li>Ideas will be evaluated according to four criteria:</li> <li>Innovation content and state of the art: it is a concept used in the process of assessing and asserting the novelty and inventiveness of an idea;</li> <li>Market and competition;</li> <li>Team: entrepreneurial profile of the participants;</li> <li>Prospects for implementation: technical feasibility of the idea.</li> <li>Also the presentation in front of a jury is evaluated.</li> </ul>
Length and Phase	Phase 1: from the 1 <sup>st</sup> of October to the 15 <sup>th</sup> of November Phase 2: from the 1 <sup>st</sup> of December to the 15 <sup>th</sup> of January Final: February 2018
SEEM stage(s)	Educate – Stimulate (partial).
Awards	Place 1: \$15,000 Place 2: \$12,500 Place 3: \$10,000 Prize is paid out in two stages. The first part directly after the ceremony, the second after the interim presentation.

Sponsors/supporters and their characteristics	UnternehmerTUM (Center for Innovation and Business Creation at TUM) and Zeidler Research Foundation (a non-profit foundation dedicated to the promotion of science and research in the field of natural and engineering science, the promotion of public health, education and nature conservation).
Additional services	The three winners receive an individual consultancy service from TUM Start-up Consulting.
Organisational team	Technische Universität München
Other	TUM offers a teaching programme in Entrepreneurship Education. The TUMentrepreneurship Education instructs and accompanies its participants through all phases of establishing a business, the programme is aimed at participants with a variety of disciplinary backgrounds and experience.
Website	https://www.tum.de/en/tum-business/entrepreneurship/ideaward/#

Name of university	University of Edinburgh
Name of competition	The E Club Pitching Competition
<b>Short Description</b>	Competition is divided into two streams: the Novel Ideas competition and the Venture Development competition.  11 finalists for the current year (2017).
Admission criteria	Participant must be students (graduate or postgraduate), or recent alumnus (within the last two years).  Those selected for the final must attend the event.
Evaluation criteria	Not specified.
Length	Deadline for application: January of each year (current year is 31 January 2017) Final: March of each year (this year 8 March 2017).
SEEM stage(s)	Educate – Stimulate – Incubate (partial).
Awards  Sponsors/supporters and their characteristics	All sectors competition: £5,000 total prize fund Novel Ideas Competition: First prize: £1,500 Two runners-up: £500 each Venture Development competition: First prize: £1,500; Two runners-up: £500 each  Grant Property (leading property investment and management company with over 20 years of strong performance in the UK's property market) and Santander Bank (wholly owned subsidiary of the Spanish banking group Santander, it offers an array of financial services and products including retail banking, mortgages, corporate banking, cash management, credit card, trust and wealth management, and insurance).
Additional services	Not specified.
Organisational team	The Edinburgh Entrepreneurship Club, an internal group of the University of Edinburgh.
Other	Winner of Venture Development category year 2017: a graduate student of the Edinburgh College of Art with an interdisciplinary online co-working platform for students.  The winner of Novel Ideas category year 2017: an Edinburgh researcher for his work on large-scale architectural acoustic simulations.
Website	https://www.business-school.ed.ac.uk/eclub/competitions

Name of university	University of Bristol
Name of competition	New Enterprise Competition
Short description	It is composed of several stages or rounds. The main aim is to support start-ups in the development of an original idea into a self-sustaining business. Such business can be both for profit or non-profit. Simple conceptual ideas as well as ready-to-launch businesses (or even company already in the market for less than 12 months) are both admitted to the competition.
Admission criteria	<ul> <li>One of the founders and current members of the applying team must be a current student or staff member at the UoB or have graduated from the UoB in the last three years.</li> <li>The idea must be the applicants' own and if any existing IP is involved they must be owned by the applicants.</li> <li>The enterprise must be new in that it must have only started trading since July 2016.</li> </ul>
Evaluation criteria	<ul> <li>Original product/service addressed to an evident market need.</li> <li>A good understanding of both technology and market.</li> <li>A sound business model potentially supporting a high-growth business.</li> <li>A team with the skills, experience and determination to succeed.</li> </ul>
Length	The competition length is one year. A new competition starts when the former ends. To understand the organization of the activities, we report the scheduling of the ongoing competition (2016/17):  New Enterprise Competition: Round One 07-30/11/16  New Enterprise Competition: Round Two 25/01-21/02/17  NEC: Final Round  11/04/17 NEC opens and 02/10/17 NEC closes  04/11/17 Final pitch to judging panel  29/11/17 The Annual Enterprise Dinner 2016
SEEM stage(s)	Educate (partial) – Stimulate – Incubate (partial).
Awards	Each year, the total value of the prize awarded to the winners is around £35,000 (in cash, legal support packages and business acceleration services)  Round one: grants of up to £500  Round two: grants of up to £1000  Final round: up to £10,000
Sponsors/supporters and their characteristics	All prizes are sponsored by the University's industry partners, which include Wyvern Seed Fund (a source of <i>seed</i> and growth capital for early stage technology companies associated with the university

	partners), SETsquared Partnership (it is a collaboration between the universities of Bath, Bristol, Exeter, Southampton and Surrey that supports high tech start-up companies and enables academics to maximize the impact of their research), Veale Wasbrough Vizards (law firm), Santander Universities, IP Group (an intellectual property commercialization company), Airbus Group (an European firm that operates in the aeronautics and space sector), Motorola Foundation and Waterthight Marketing.
Additional services	Round one and two: awarding packages of support and funding. Business acceleration service
Organisational team	University of Bristol
Other	In the last few years, the winners included both for profit and non-profit firms. Examples include quantum cryptography, desert bars, funeral directing and ultrasonic technology.
Website	http://www.bris.ac.uk/red/nec/

Name of university	Loughborough University
Name of competition	Launch-it! Business Idea Competition
Short description	The Competition is organized to achieve different objectives: to provide some form of recognition to the business ideas coming from the students of the university, to develop and promote the university's student business start-up community as a contributor to national competitiveness.  The competition is divided in 2 stages: Stage one: applications are accepted and evaluated according to specific criteria (see below).  Stage two: a maximum of 12 business ideas are admitted as finalists and must be further developed. All entrants can attend any workshops and events offered to students and graduates over the academic year.
Admission criteria	<ul> <li>The competition is open to all students of Loughborough university;</li> <li>Participation is allowed both alone or in team (max 5 members);</li> <li>Returning participants area allowed as long as they participate with a new business idea;</li> <li>Business ideas could be both non-profit and for-profit.</li> </ul>
Evaluation criteria	Judging criteria do not vary as much in the 2 stages: applications are evaluated in terms of feasibility of the idea, technological innovation, creativity and impact in the market.
Length	Stage 1: Launch – February 2017 Closing date for submission of entry form by 27 <sup>th</sup> March Stage 2: Those selected will be contacted on or after Monday 24th April Drop-in session for pre-Dragons Den pitch on Wednesday 3 <sup>rd</sup> May Evening Awards ceremony 25 <sup>th</sup> May
SEEM stage(s)	Educate – Stimulate (partial).
Awards	<ul> <li>1st prize £3,000 + additional business support</li> <li>2nd prize £2000 + additional business support</li> <li>3rd prize £1000 + additional business support</li> <li>Other sponsored and supported prizes including business support</li> <li>Eligible participants that apply for a master's programme at Loughborough University London will be placed higher in the admission ranking and could apply for the Dean's Award for Enterprise Scholarship.</li> </ul>
Sponsors/supporters and their characteristics	Potter Clarkson (one of Europe's foremost firms of patent and trade mark attorneys), Incrementa and Santander Universities.

Additional services	Business support and workshops are offered to participants.
Organisational team	The university of Loughborough
Other	The last winner was a technology healthcare start-up. The company's first product range aims to provide independence to those leaving with dementia – and reassurance to those closest to them.
Website	http://www.lboro.ac.uk/enterprise/launch-it/

Name of university	The Royal Agricultural University (RAU)
Name of competition	The RAU Grand Idea
Short description	The competition provides RAU students and recent graduates (up to five years) with an opportunity to explore and develop their business ideas and create a business plan with the support of the RAU Enterprise and Entrepreneurship Programme. The competition is divided in 4 main phases (steps) and it is part of the Entrepreneur and Entrepreneurship Programme of the RAU: Think it (students come up with the idea) → Try it → Launch it (Grand Idea Competition) → Grow it
Admission criteria	To be eligible, entrants must be either current RAU students or have recently graduated from the RAU. They must also be actively working on a business concept which they are either intending to launch shortly or have launched in the last 2 years.
Evaluation criteria	Not specified.
Length	The total length of the Grand Idea competition is around four months, the deadlines for the other four steps are not specified.  The application deadline is normally set at the end of January/beginning of February  A second internal deadline for the presentation of the business plans is set around the end of May.  At the beginning of June, the "Enterprise and Entrepreneurship Awards" takes place, during the which the Grand Idea competition winner is awarded.
SEEM stage(s)	Educate (partial) – Stimulate.
Awards	Try it: £250, Launch it → Grand idea: £1,000 to invest in the business as well as around £3,000 of in-kind business support prizes.
Sponsors/supporters and their characteristics	Three Counties Showground, Denys Shortt – entrepreneur (a British businessman), Enable Software (Enable Software is a highend software development and support company specialising in the creation of leading-edge training solutions, real-time signal processing technologies, communications monitoring and logging software and data validation solutions), Whitson Conference Events, Burges Salmon (a UK law firm), Whisper PR (public relation firm), Marketest.co.uk (it provides online market research).
Additional services	Think it: peer-to-peer mentoring, inspirational speakers and workshop; Try it: business mentorship, workshops held by external experts; Launch it: meeting with professional individuals; once the business

	has launched, the program continues to provide access to an enterprise mentor for up to 10 hours per academic year.  Grow it: mentoring, expert advice and access to workshops and guest lecture sessions.
Organisational team	The School of Business & Entrepreneurship at the Royal Agricultural University.
Other	Not specified.
Website	https://www.rau.ac.uk/about/organisation/enterprise

Name of university	Tallinn University of Technology
Name of competition	TTÜ Mektory Startup Competition
Short description	The goal of Mektory Start-up Competition is to provide participants with the skills needed for going through a real start-up process. Normally, ideas should have high technological content.
Admission criteria	A team must consist of 2 to 5 members and at least the 50% of the team members must be students. At least one team member must be from Tallinn University of Technology or has taken part in STARTER pre-incubation program.  All teams have to pitch in the preliminary rounds, 15 teams are then chosen for the finals.
Evaluation criteria	The success in the competition depends on whether participants are able to convince potential investors - the judge panel - to invest in their to-be-launched business enterprise.  The judge panel is composed by business angels, investors and mentors.
Length	Not specified. The next competition is expected to start on December 2017.
SEEM stage(s)	Educate – Stimulate (partial).
Awards	Not specified.
Sponsors/supporters and their characteristics	Teder (a law firm), Tallinna Ettevõtlusamet, Embassy of the United states, European Innovation Academy (entrepreneurship program), Latitude 59 (it is the flagship startup and tech event of the world's first digital society), Startup incubator, Huge Foundation, Ergo (insurance group), Bravo Pharma, Prototron.
Additional services	Mentors from companies and coaches from the university
Organisational team	Innovation and business centre Mektory of the Tallinn university of Technology
Other	There have been six competitions in the last five years with over 750 participants from 15 different nationalities and more than 170 new ideas.
Website	https://www.ttu.ee/projects/mektory-eng/startup/tut-start-up-competiion/

Name of university	University of Manchester
Name of competition	Venture Out
Short description	Venture Out is an idea competition divided into four-plus-one categories: Venture Out Business, Venture Out Social, Venture Out Digital and Venture Out Research. The last category is the Venture Out Innovation Challenge (also VOIC from now on), a category sponsored by PZ Cussons.
Admission criteria	Individuals or teams up to a maximum of six people may enter, all entrants must be enrolled students at The University of Manchester for the current academic year.  The same entry cannot be submitted to more than one category. However, applicants are free to submit as many different entries as they want to the same or different categories.  Finalists are required to prepare a poster related to their business idea. The VOIC is an exception, since in this competition finalists are required to pitch their idea during the Venture Out awards event.
Evaluation criteria	Not specified.
Length	Deadline for submission is in October/November of each year. All the finalists for each category are notified within approx. one month. As regards the VOIC, the number of finalists is limited to three.  An award ceremony is held at the beginning of December.
SEEM stage(s)	Educate.
Awards	For each competition (VOIC excluded) prizes are the following:  1st Prize: £500  2nd Prize: £250  3rd Prize: £150  For Venture Out Innovation Challenge only, the prizes (which are offered by the sponsor) are the following: £1500 for 1st prize, £1000 for 2nd prize and £500 for 3rd prize.
Sponsors/supporters and their characteristics	Headline sponsor for the VOIC is PZ Cussons, it is a major British manufacturer of personal healthcare products and consumer goods. It operates worldwide, especially in Africa and Commonwealth nations. It opened their first branch in Nigeria – a country which would become their biggest market employing the majority of their people
Additional services	Not specified
Organisational team	University of Manchester
Other	The last PZ Cusson Innovation Challenge winner deals with an innovative container shape design to maximize the use of every millilitre of original source, helping to save product, money and the environment.

Website	https://mec.portals.mbs.ac.uk/Enterpriseactivities/Competitions/Ventur
	eOut.aspx

Name of university	University of Manchester
Name of competition	Venture Further
Short description	Venture Further is a start-up competition, not a simple business plan competition. The competition looks for proposals for new business ideas which have the greatest potential to succeed in the market. The competition is divided into four categories/challenges: Business, Social, Digital, Research.  Business - Proposals that have commercial potential via new products or services.  Social - Proposals that improve the lives of people and communities. Social objectives as well as commercial objectives must be clearly defined.  Digital - Proposals that apply digital technologies to generate new experiences and innovative business opportunities.  Research - Proposals that focus on the application of university-based research to real-world problems and needs typically with some form of intellectual property at the heart of the business.  The competition is divided in 2 rounds:  First round: it is based on the info presented in the participants' PowerPoint along with any supporting info provided in the executive summary.  Up to four entries per category from the First round may be selected to proceed.  Final round: each finalist will be asked to present the new business to the Final round judges.
Admission criteria	VF17 is open to all students and graduates entering as individuals or in teams. Individuals not enrolled at UoM can enter as part of a team, but are not eligible to enter individually. Teams can made up of six people maximum. At least the 50% of the team must be enrolled (or recent graduate) of UoM.  Businesses recently founded are admitted but must not being in the market for more than 2 years.  Previous winners (first or second place) cannot submit the same business plan to new competitions. They must submit an entirely new proposal.  All ideas must refer to new business (no franchising, acquisitions or management buy-out processes).  Participants can take part to more than one challenge but must submit a business idea to one challenge only.
Evaluation criteria	Credibility, viability and business sustainability of the proposal; Evidence that the team is committed to taking the business proposal forward.

Length	First round: The deadline for competition entries is in March/April.  Final round: Finalists are notified after 2 weeks circa.  After approx. 10 days from receiving the notification, finalists are required to present their business ideas in front of a jury (end of April).  An Award ceremony is organized for the first days of May
SEEM stage(s)	Educate – Stimulate (partial).
Awards	Two cash prizes per category: £10,000 (first) and £2,500 (second).
Sponsors/supporters and their characteristics	Walters Corporation, an analytical science instrumentation and software, Manchester Science and Partnership, which is the UK's leading science and technology park operator and Jacobs, a technical, professional and engineering group.
Additional services	Not specified
Organisational group	Manchester Enterprise Centre Group, which is part of The University of Manchester.
Other	From a total of 73 entries, 16 entrants of The University of Manchester's Venture Further 2017 business start-up competition have been selected to progress to the final.
Website	https://mec.portals.mbs.ac.uk/Enterpriseactivities/Competitions/VentureFurther.aspx

Name of university	University of Manchester
Name of competition	Eli and Britt Harari Graphene Enterprise award
Short description	The Eli and Britt Harari Graphene Enterprise award takes its name from Eli and Britt Harari (his wife), the former is a famous alumnus of the university of Manchester, and now an inventor, entrepreneur, leader, public company CEO, and industry visionary.  The competition is related to the commercial exploitation of graphene, a two-dimensional carbon-based material.  Participants must submit an idea that uses in an original way graphene to solve a real-world problem, explaining what form the solution would take and what specific capabilities of graphene or related materials would enable that solution.
Admission criteria	The competition is open to both individuals and teams. Teams can contain up to six people but at least 50 per cent of the team must be current students, Postdoctoral Research Associates or alumni of The University of Manchester who have graduated within the last three years. All applicants must submit an outline business proposal. The proposal should outline how the participant will use the prize money to establish, manage and develop a graphene-related business. Applicants must also be able to offer a concise, coherent and credible scientific and technical rationale for their proposed graphene enterprise.
Evaluation criteria	Outstanding potential in establishing a new enterprise related to an innovative use of graphene: key to this is a credible business case based on sound science.
	Evidence that the individual or, in the case of a team, the nominated lead entrant wishes to embark on an entrepreneurial career.
Length	Around six months: from the publication of application form to the announcement of the winner.
SEEM stage(s)	Educate – Stimulate – Incubate.
Awards	Prize: £50,000
Sponsors/supporters and their	The competition is funded by the North American Foundation for The University of Manchester, through the generous support of one of the University's former students, Dr Eli Harari, and his wife Britt
characteristics	Harari. Eli Harari enrolled at University of Manchester attracted by the strong reputation for Physics of UoM. He received a MA and then a PhD in Solid State Sciences from Princeton University. Harari continuously played multifaceted roles over a span of 23 years as inventor, entrepreneur, leader, public company CEO, and industry visionary. In 1988, he launched the company that would become SanDisk, a firm in
	the field of non-volatile memories and storage systems. In 2009, he

	received the IEEE Robert N. Noyce Medal recognizing his leadership in the development and commercialization of flash memory technology. In 2014 President Obama presented Eli with the National Medal of Technology and Innovation. This award is the United States' highest honour recognizing achievement and leadership in advancing the fields of science and technology.
Additional services	The winner receives advice and information from the University and UMI3 (the University's innovation company, standing for inspire, invent, innovate. UMI³ has two operational divisions: its Innovation Centre with state-of-the-art incubator premises and a vibrant enterprise conferencing and networking centre, and its intellectual property commercialization services). High-value services such as administrative, legal, financial and IP support, mentoring, and workspace in the UMI3 innovation centre/accelerator are also made available by financial negotiation.
Organisational team	University of Manchester
Other	Graphene, a two-dimensional carbon material. The material was rediscovered, isolated, and characterized in 2004 by Andre Geim and Konstantin Novoselov at the University of Manchester. Its physical properties make it one of the most important breakthroughs discoveries in the recent history of science. The material could have different potential uses, many of which are still to be identified.
Website	https://mec.portals.mbs.ac.uk/Enterpriseactivities/Competitions/Eliand BrittHarari.aspx

Name of university	University of Brighton
Name of competition	Santander University of Brighton Ideas Competition
Short description	The aim of the Santander University of Brighton Ideas Competition is to reward innovative ideas for new products, services and community projects and to provide a full package of support to enable the winners to develop their ideas and turn them into real businesses. The competition is divided into two stages: only a selected (5) number of participants are admitted to the second stage and invited to further develop their business ideas.
Admission criteria	This competition is open to students and alumni (graduates) from the University of Brighton. Individuals or teams are both admitted as long as one member is/was enrolled at University of Brighton. Finalist must attend the final event (Enterprise Award).
Evaluation criteria	New products/services, improvements of existing products/services, a novel community project.  The idea must provide clear benefits for the customer and/or the society or the environment.  A big-enough market segment must exist. In the case of community projects, participant need to demonstrate that the project idea has the potential to become financially sustainable in the long-term.
Length	Deadline for applications is in March/April.  After just a few days, the list of the most promising (5) business ideas is made available to participants.  Training session for selected ideas start almost immediately and go on for 1 month circa.  Final pitching event: 4 May 2017.
SEEM stage(s)	Educate – Stimulate (partial).
Awards	The first prize is £2000, the second prize is £1000, and the third prize is £500. The five shortlisted entrants receive £250 each. In addition, there are 20 early-bird prizes of £50 each made available for the first 20 entries received by the Student Enterprise ("beepurple") team (a team that offers support to students and graduates interested in starting their own business, community project or freelance career mainly through workshops, one-to-one business support and intensive summer course).
Sponsors/supporters and their characteristics	The sponsors for the 2017 edition were: Santander Bank, Innogot, Hybe, MayoWynneBaxter, Swindells and MBHUB.  MBHUB is a peer to peer business growth network, Innogot organizes IP, Hybe is a bag producer, MayoWynneBaxter is a company of lawyers/solicitors.

Additional services	The five winners receive a complementary package of support from local entrepreneurs and business experts.
Organisational group	University of Brighton and its entrepreneur support service, called "beepurple".
Other	Not specified.
Website	http://about.brighton.ac.uk/careers/enterprise/ideas-competition/

Name of university	Technical University of Valencia
Name of competition	Emprendedor Universitario STARTUPV 2k16
Short description	The declared aim of the competition is to "promote and consolidate the entrepreneurial environment of the Unviersitat Politècnica de València" (UPV from now on). The competition is part of the "Plan de Emprendimiento global UPV", which aims is to potentiate the entrepreneurship culture among the students of the university. The competition is internally divided into 4 independent contests, which are:  - Premios Ideas: the aim is to award the best innovative business idea that has the potential of becoming a future enterprise, three sub-categories are available depending on the stage of the idea (basica, avanzada, Proyecto Empresarial), once 10 finalists per category are selected, they must present the idea in front of a Commission  - Premios TFM-PFC: The aim is to promote the realization of the final work degree of final project of career which shows an entrepreneurial character and permits the birth of a new enterprise. Individual form participation. 10 best works are selected for the final.  - Premios TFG-PFC: The aim of this category is the same as the previous one, the only difference regards the type of student who can participate, Bachelor or Master ones. Individual form participation. 5 best works are selected for the final.  - Premios Thesis: The aim is to promote the realization of the PhD thesis which shows an entrepreneurial character and permits the birth of a new enterprise. Individual form participation. 3 best works are selected for the final.
Admission criteria	The following requirements holds for all the 4 contests:  - Business ideas must come from students and not from UPV Research of Administrative staff.
	<ul> <li>Students can participate to 1 contest only.</li> <li>Already funded start-ups are not admitted to the competition.</li> </ul>
	Previous participants can participate.
Evaluation criteria	The judging criteria vary according to the competition type. For Premios ideas: the innovative, different and original character of the idea is awarded, as long as its technical feasibility and the quality and clarity of the idea description.  For the TFG-PFC, TFM-PFC and Thesis premios the judging
	criteria are the following: the innovative, different and original character of the idea; the development potential of the project and

	quality and clarity of the description. The technological skills and
	the entrepreneurial profile of the candidates are evaluated as well.
Length	The application is quite long (3 months) and goes from June to
	September of each year.
	Finalists are selected by the end of October/beginning of
	November.
SEEM stage(s)	Educate.
Awards	Premios Idea: Three participation categories are established:
	basica: 5 prizes of 200 Euro each, avanzada: 5 priezes of 600 Euro
	each, Empresarial: 5 prizes of 1,200 Euro each.
	Premios TFM-PFC: 6 prizes for a total of 3.600 Euro
	Premios TFG-PFC: 2 prizes of 700 Euros each.
	Premios Thesis: 1 award of 1,000 Euro.
Sponsors/supporters	Awards are financed with own funds of the universities, the
and their	maximum amount allowed is equal to 16.000 euros for all prizes.
characteristics	
Additional services	Not specified
Organisational team	IDEAS UPV, which is considered as the union link between
	entrepreneurs and the university, and the UPV
Other	Not specified.
Website	http://www.ideas.upv.es/wp-content/uploads/2k16/bases.pdf

## 3. Discussion

The comparison of the 15 contests selected for this study allows us to identify some similarities, peculiarities and also inconsistencies in the organization and structuring of the competitions. Among the similarities, we found the admission criteria to be quite similar among the different contests. Indeed, in all the competitions both individuals and teams are generally admitted—with the exception of the Premios TFM-PFC, TFG-PFC and Premios Thesis of the University of Valencia, which are meant to award single students—and almost all of them allow external individuals to participate as long as they are part of a team lead by enrolled students. The great majority of competitions also allow former students to participate if they have graduated within two or a maximum of three years. In general, we found admission criteria quite lenient in the majority of the contests we analysed.

As regards the types of competition, the comparison reveals that the majority of universities focus on "idea competitions". Start-up competitions are also present but less common. Most of the time, the universities look for brilliant ideas to be awarded, leaving to others (business angels, venture capitalists, incubators, accelerators) the task to incubate and to accelerate such promising firms. This is coherent with a "supply chain" view of

innovation, in which universities provide the very first seeds of potential new businesses, leaving to others the task (and the risks) to help them develop and grow.

At this regard, we could advance a distinction between "pure contests" and "growth-oriented contests". The first (pure) are generally prize-oriented, and no support to, for example, founding team formation, business plan creation or prototype development are foreseen. Usually, the length of such competitions is short (from three weeks to a maximum of two months. The second (growth-oriented) are meant to support participants to turn their ideas into real and potential business by providing many of the above listed services, plus mentoring, office space and sometimes also funding. Such competitions tend to be longer in length (from four months to one year). Examples of pure contests are the E Club Pitching Competition, the RAU Grand Idea, Venture Out, Santander University of Brighton Ideas Competition. Examples of growth-oriented contests are Faculty of Natural Sciences Make-A-Difference, TUM IdeAward, New Enterprise Competition and Eli and Britt Harari Graphene Enterprise Award.

As we clarified in the methodology, some Universities organize more than one contest per year. At this regard, we can distinguish between *sequential* and *parallel* competitions. The former are competitions internally divided in multiple stages (or rounds) divided by selection gates, as in a typical stage-gate model. That means that the initial idea entering the first stage (competition) is progressively turned into a more precise business project as long as the idea proceeds towards the following stages. On the contrary, parallel competitions are conceived as independent contests going on in parallel that could differ for sector (life sciences vs. nanotechnologies), level of development of the ideas (early vs. developed) and admitted participants (undergraduate/graduate/Ph.D. vs. external members). Example of sequential contest are the New Enterprise Competition, Faculty of Natural Sciences Make-A-Difference, TUM IdeAward, the RAU Grand Idea and Venture Further. Examples of parallel competitions are the E Club Pitching Competition, Venture Out, Venture Further and Emprendedor Universitario STARTUPV 2k16.

Competitions can also be generic or focused. Generic competitions allow ideas from any research and technological field, while focused competitions are limited to specific sectors. We found generic competitions to prevail, while focused competitions are often connected to the presence of an external sponsor, as in the case of Venture Out (University of Manchester), which is sponsored by the company PZ Cussons. An example of a focused competition not externally financed is "Make-a- Difference", which is organized by the Faculty of Natural Sciences of the Imperial College of London and reserved for students of the faculty of Natural Sciences, and Students Challenge Competitions, that requires to develop an idea related to the healthcare sector. Focused competitions can leverage on the scientific excellences (and resources and capabilities) of a University.

As regards the length of the contests, short contests largely prevail (up to three months). Long contests are less common and are normally divided internally into different phases/stages during which the initial business idea is further refined (see the case of the University of Bristol).

In relation to the documentation required to participate in the contests, we found redtape to be close to zero. Application forms (most often online) are easy and short. Sometimes applicants are required to upload a short video. Business plans seem to be no longer appreciated by judging panels. Finally, as regards the types of awards provided by the organizers, we found in general not much money to be involved. Most of the time, awards are just symbolic (up to 1,000 euro), and prizes include further support provided by external experts, such as business angels and entrepreneurs. Two notable exceptions are the IdeAward of the Technical University of München, in which winners are awarded with 15,000, 12,000 and 10,000 euro, and the Eli and Britt Harare Graphene Enterprise Award organized by the University of Manchester, in which the winner is granted £50,000 to help her/him to establish a new business.

We also found some peculiarities. Contests reserved to specific categories of participants, for example the Althea-Imperial Programme which is reserved only to women; contests sponsored by private firms, for example the Venture Out (University of Manchester) sponsored by PZ Cussons; contests focusing on different types of ventures (non-profit; for profit), for example the Venture Out and Venture Further by University of Manchester.

We found also some inconsistencies as in the case competitions that aim to pre-incubate "wannabe entrepreneurs" in a too short period or competition that aim to trigger the creation of new ventures but then award winners with "peanuts".

We found some interesting initiatives/policies that could be considered replicable best-practices in other universities. One comes from the University of Loughborough, which offers selected applicants who wish to continue their education at the University of Loughborough significant tax reductions. This initiative seems to us an effective way to create a lock-in effect between the university and its most entrepreneurial-oriented students. A second interesting initiative is that of the University of Valencia, which allows students to work on a business project instead of preparing a classical dissertation at the end of their study period. A third interesting best-practice is that of Faculty of Natural Sciences Make-a-Differences (Imperial College London), which offers bursary to the best three teams to develop their ideas during an 8 weeks-period over the summer.

This report has several limitations. Among these is a bias in the quantity and quality of information available per each competition. Indeed, detailed information related to certain competitions as reserved for participants only. A further and more accurate comparison should consider combining secondary information, as we did, with collected primary information in the form of direct interviews with the organizing bodies.

## **REFERENCES**

Duygu Turker, Senem Sonmez Selcuk, (2009) "Which factors affect entrepreneurial intention of university students?", *Journal of European Industrial Training*, 33(2), 142-159

Entrepreneurship education - Crescita - European Commission. (2017, April 07). Retrieved on June 20, 2017, from <a href="https://ec.europa.eu/growth/smes/promoting-entrepreneurship/support/education\_it">https://ec.europa.eu/growth/smes/promoting-entrepreneurship/support/education\_it</a>

Huyghe, A., Knockaert, M., & Obschonka, M. (2016). Unraveling the "passion orchestra" in academia. *Journal of Business Venturing*, 31(3), 344–364.

Jansen, S., van de Zande, T., Brinkkemper, S., Stam, E., Varma, V., (2015). How education, stimulation, and incubation encourage student entrepreneurship: Observation from MIT, IIIT, and Utrecht University. *The International Journal of Management Education* 13: 170-181.

Letters To The MIT Community. (2015, December 09). Retrieved June 20, 2017, from <a href="http://president.mit.edu/speeches-writing/impact-entrepreneurship-and-innovation-mit-0">http://president.mit.edu/speeches-writing/impact-entrepreneurship-and-innovation-mit-0</a>

Maia, C., & Claro, J. (2013). The role of a Proof of Concept Center in a university ecosystem: An exploratory study. *Journal of Technology Transfer*, 38(5), 641–650.

Premand, P., Brodmann, S., Almeida, R., Grun, R., Barouni, M., (2016). Entrepreneurship education and Entry into Self-Employment Among University Graduates. *World Development*, 77, 311–327.

Roberts, E.B., Murray, F., Kim, J.D., (2015). Entrepreneurship and Innovation at MIT: Continuing Global Growth and Impact; Cambridge MA: Massachusetts Institute of Technology. Available at: <a href="https://ssrn.com/abstract=2772695">https://ssrn.com/abstract=2772695</a>

Walter, S. G., & Block, J. H. (2016). Outcomes of entrepreneurship education: An institutional perspective. *Journal of Business Venturing*, 31(2), 216–233.

Westhead, P., & Solesvik, M. Z. (2016). Entrepreneurship education and entrepreneurial intention: Do female students benefit? *International Small Business Journal*, *34*(8), 979–1003.

Würmseher, M. (2017). To each his own: Matching different entrepreneurial models to the academic scientist's individual needs. *Technovation*, 59, 1-17