Master Thesis:

Crowdfunding Platform for the Financing of Research Projects

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Crowdfunding Platform for the Financing of Research Projects

Motivation

The motivation behind this dissertation
- Crowdfunding has been boosted by recent technological developments (Web 2.0 in particular)
- The necessity to improve researchers’ funding opportunities in Greece

- After 14 years of continuous growth in research publications, it has been noticed a decrease.
- The share of government budget for R&D in general government expenditure was 0.59% significantly lower than the EU average of 1.52%
- 20th in EU at R&D Investments % of GDE
- 16th in EU at R&D Investments

$16,4Bn industry

$177,5 mil Total Equity Crowdfunding Volume in EU

$3,3 Tn Alternative Finance immediately addressable market opportunity

1,250 Number of Crowdfunding platforms worldwide

270,000 Number of Jobs crowdfunding created in 2014

410% Equity Crowdfunding average growth rate 2012-2014
Crowdfunding Platform for the Financing of Research Projects

The Problem

Investments in R&D (in mil. €) in Greece and in EU28, 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Investments (mil. €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>87.188</td>
</tr>
<tr>
<td>France</td>
<td>48.643</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>43.878</td>
</tr>
<tr>
<td>Italy</td>
<td>21.892</td>
</tr>
<tr>
<td>Sweden</td>
<td>14.581</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13.630</td>
</tr>
<tr>
<td>Spain</td>
<td>13.172</td>
</tr>
<tr>
<td>Austria</td>
<td>10.444</td>
</tr>
<tr>
<td>Belgium</td>
<td>10.072</td>
</tr>
<tr>
<td>Denmark</td>
<td>8.054</td>
</tr>
<tr>
<td>Finland</td>
<td>6.071</td>
</tr>
<tr>
<td>Poland</td>
<td>4.317</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>3.250</td>
</tr>
<tr>
<td>Ireland* (2014)</td>
<td>2.921</td>
</tr>
<tr>
<td>Portugal</td>
<td>2.289</td>
</tr>
<tr>
<td>Greece</td>
<td>1.684</td>
</tr>
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</table>

Gross Domestic Expenditure on R&D 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenditure (mil. €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>3.26</td>
</tr>
<tr>
<td>Austria</td>
<td>3.07</td>
</tr>
<tr>
<td>Denmark</td>
<td>3.03</td>
</tr>
<tr>
<td>Finland</td>
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<tr>
<td>Germany</td>
<td>2.87</td>
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<tr>
<td>Belgium</td>
<td>2.45</td>
</tr>
<tr>
<td>France</td>
<td>2.23</td>
</tr>
<tr>
<td>Slovenia</td>
<td>2.21</td>
</tr>
<tr>
<td>Eurozone (19)</td>
<td>2.12</td>
</tr>
<tr>
<td>EU 28</td>
<td>2.03</td>
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<tr>
<td>Netherlands</td>
<td>2.01</td>
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<tr>
<td>Czech Republic</td>
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</tr>
<tr>
<td>United Kingdom</td>
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</tr>
<tr>
<td>Ireland</td>
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<tr>
<td>Estonia</td>
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<tr>
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<td>Luxembourg</td>
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<td>Spain</td>
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<tr>
<td>Slovakia</td>
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<tr>
<td>Lithuania</td>
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<tr>
<td>Poland</td>
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<tr>
<td>Greece</td>
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<tr>
<td>Bulgaria</td>
<td>0.96</td>
</tr>
<tr>
<td>Croatia</td>
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<tr>
<td>Malta</td>
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<tr>
<td>Latvia</td>
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</tr>
<tr>
<td>Romania</td>
<td>0.49</td>
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<tr>
<td>Cyprus</td>
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</table>
Crowdfunding Platform for the Financing of Research Projects

The Solution

Why Crowdfunding Platform is the Solution?

1. **Environment for R & D**
   - Economic Crisis
   - Greece: Research-hostile environment
   - Difficulties in Financing

2. **Crowdfunding Platform**
   - Crowdfunding: Pioneer source of Finance
   - Enhancing Extraversion
   - Non Public fundraising
   - Convenience in raising money

3. **Sharing Research Projects**
   - Crowdfunding Opens Doors
   - Activating the community
   - Confederate companies in the R&D strategy

4. **Investing in Research**
   - Investment not only donation or scholarship
   - Ideas transform into products
   - Fairer distribution of funds

5. **Development**
   - Make it Happen
   - Innovative Ideas can bring Growth to our Economy
   - R&D culture & values
# Crowdfunding Platform for the Financing of Research Projects

## Environment for R & D

<table>
<thead>
<tr>
<th>Key points</th>
<th>Description</th>
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</table>
| **Economic Crisis**         | - 2008 financial crisis is considered by many economists to have been the worst financial crisis since the Great Depression of the 1930s  
- A crisis in the banking system, caused significant issues in funding business and the investments  
- Recession in an economic environment where rapid changes occurs (IT, demographic changes etc)  
- Research and development or other innovation-related areas are natural places to look when searching for areas to curtail in order to meet stricter budget targets  
- As sales revenues and profits decline, in an effort to cut costs and improve the bottom line, the companies will curtail research and development (endless loop of the recession) |
| **Greece: Research-hostile environment** | - Greece #16 in EU comparing the countries' R&D Investments  
- Greece # 20 in EU28 comparing the ratio of countries’ R&D Investments against the Gross Domestic Expenditure  
- Hurdles in Investments  
- Brain drain – Researchers emigrate (CEID is not excluded from this case)  
- Unsustainable dependence of R&D from the public sector |
| **Difficulties in Financing** | - New Approaches to SME and Entrepreneurship Financing due to the crisis in banking system  
- There is a broad concern that credit constraints will simply become "the new normal" for SMEs and entrepreneurs  
- Difficulties in Greek Economy (Public Sector & Banking System) |
## Crowdfunding Platform for the Financing of Research Projects

### Crowdfunding Platform

<table>
<thead>
<tr>
<th>Key points</th>
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</table>
| **Crowdfunding: Pioneer source of Finance** | - In the three decades since the Internet evolved from an experimental band of academic and government computers into a globe-spanning network of interconnected systems, the amount of time spent online has grown to rival (or even exceed) the time spent living offline  
- In a matter of very few years, the Internet consolidated itself as a very powerful platform that has changed forever the way we do business, and the way we communicate  
- The web is an inherently interactive medium  
- Banks are less likely to finance completely new startups  
- The number of crowdfunding platforms has experienced dramatic growth over the past decade  
- Of the different types of crowdfunding models, there are four in particular experiencing high levels of traction:  
  - Donation-based (where contributors are motivated by social or intrinsic goals)  
  - Rewards-based (where contributors are effectively pre-purchasing a product or service)  
  - Debt crowdfunding (where contributors receive a debenture)  
  - Equity crowdfunding (where contributors receive an equity stake in the funded company) |
| **Enhancing Extraversion** | - The Internet, as no other communication medium, has given an International or a "Globalized" dimension to the world  
- Internet has become the Universal source of information for millions of people, at home, at school, and at work  
- Almost any business can reach a very large market, directly, fast and economically, no matter the size or location of the business  
- Researchers are able to ask for funding from international pool of investors or foreign research institutions |
| **Non Public fundraising** | - A way for Greek universities / Research institutions to be funded from other than public source of finance  
- In last 5 years the government funding for R&D decreased by 70%  
- Public–private partnerships (PPPs) in science, technology and innovation can help make research and innovation policy more responsive to the changing nature of innovation and to social and global challenges  
- Increasing opportunities for commercial spillovers |
| **Convenience in raising money** | - Easy access for financing a project, during a period in which banks avoid funding startups  
- Help stakeholders who are interested to invest / contribute in R&D project, to finance a project  
- Cheap way to access investors avoiding the bureaucracy or traditional financing methods |
Crowdfunding Platform for the Financing of Research Projects

Advantages & Disadvantages

Advantages

- Easy access to startups
- Quick way & No cost to raise money
  - e.g only a video presentation
- No lose of project’s control
  - researcher retains the ultimate control
- Guidance / Consulting during fundraising
- Researchers can vet their investors
- Crowdfunding campaign promotes a research project
  - Successfully crowdfunded projects can get huge amounts of attention, on social media and elsewhere, which can help them grow beyond what the money raised alone could have done
- Crowd “asks” for specific projects
  - from consumer – investor
- Society contributes to research
  - Researchers can get feedback
  - Open issues for further research

Disadvantages

- The administrative and accounting challenges researchers are going to face
- The risk of their idea being stolen
- The rule all or nothing
- Some rewards / gifts to investor is waste of time for researcher
- If a project is not visible, finite and understandable, it’s unlikely to succeed
- Projects need the time and money to gear up the community, publish their project and bring in investors before any money is raised
### Crowdfunding Platform for the Financing of Research Projects

**Sharing Research Projects**

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| **Crowdfunding Opens Doors**            | - Crowdfunding triggers the public interest in research projects  
- Attract public attention through social media  
- Open universities’ labs to public giving to the phd students the opportunity to interact with people outside from the scientific community, building researchers’ tenacity through this interaction |
| **Activating the community**            | - Educate crowd to form the appropriate culture regarding R&D  
- Leveraging on this culture about the importance of scientific research, R&D will attract further funds  
- Well educated community will create better researchers, increasing the quality of R&D  
- Crowdfunding transforming customers into investors through the innovative service platforms |
| **Confederate companies in the R&D strategy** | - Crowdfunding is an excellent way for co–operation between university research labs and companies  
- Greek universities cannot produce high quality research financed only by public funds  
- The interaction between research institutions and market is vital for the development and the improvement of research environment |

### Crowdfunding Platform for the Financing of Research Projects

#### Investing in Research

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| **Investment not only donation or scholarship** | - Crowdfunding offers investment opportunities not just a portal of donations  
- A project which seems to be interested to the crowd and is believed as an investment opportunity would be founded  
- Investors offer more than their money that a donator does (as explained in advantages) |
| **Ideas transform into products** | - A research project is supported in order to reach the final stage of production, transforming a scientific idea to a market product  
- Project is founded and sometimes the reward is the final product (the example of first apple could be an early example of crowdfunded project)  
- Open issues for further research may financed, helping the scientist to continue his / her work |
| **Fairer distribution of funds** | - In crowdfunding the crowd selects the project which prefer to support, not a public committee which distributes the public funds  
- Even in the case of well promoted projects, which attract the interest of crowd leaving some projects in their shadow, all projects may have opportunities to receive funds, through an algorithm which create a common pool of funds and a percentage of collected funds is distributed fairly to all scientific projects |
Development

The “Development” behind the R&D

The role of R&D in economic growth has been a subject of economic literature for many years. It is generally acknowledged that investments in R&D contribute to growth and competitiveness through products and process innovations.

Make it Happen

Crowdfunding platform for the financing of research projects will actively encourage researchers to continue their work, produce worthwhile results.

Growth to Greek Economy

- A way to prevent the brain drain
- R&D will find alternative source of finance, to recover from the recession of Greek crisis
- Co-operation of Universities with the market

R&D culture & values

Strengthening stakeholder engagement, community building and communicating a strong “research project story or vision” to the public are all elements that can be linked to crowdfunding. These elements are also often very strong points of attention for many research projects, educating and making impact in society, creating values and forming R&D culture.
Crowdfunding Platform for the Financing of Research Projects

Business Plan for Crowdfunding Platform

The development of the platform is estimated at €10K (duration 3 months)
Operation of the crowdfunding platform under the supervision of CEID or CTI

Vision

Better conditions for researchers
- Improved conditions in research labs
- Recognition of their efforts
- Projects attract public attention (channel to publicize work)

Crowdfunding Platform for R&D
- Source of finance research project
- The 1st Greek platform for crowdfunding scientific research

Objectives

Extraversion
- Greek universities will interact with the Market
- Ability to ask for funding from international investors/foreign institutes

Funds for research projects
- Support researchers
- Funds or supplies to continue the research
- Fairer distribution of funds

Business Plan
Crowdfunding Platform for the Financing of Research Projects

SWOT Analysis

**Strengths**
- Low development costs
- Operation under CEID / CTI management
- Specialisation in funding research projects
- Flexibility in operation (not only money but also crowdsourcing for supplies / systems sharing)
- The social impact

**Weaknesses**
- The difficulties which researcher will find when they will go to ask for funding from an uneducated crowd (at the primary stage of the project)
- The legislation status about financing of Greek Universities

**Opportunities**
- The Greek financial crisis which has affected the state funding for R&D, is a great opportunity for co-operation between researchers and investors from the market
- Greek research institutions will enhance their extroverted strategy

**Threats**
- The fact that there are a lot of generic crowdfunding platforms, non specialized for scientific research projects

- The event which is the Greek financial crisis has affected the state funding for R&D, is a great opportunity for co-operation between researchers and investors from the market.
- Greek research institutions will enhance their extroverted strategy
Crowdfunding Platform for the Financing of Research Projects

Key points of the Business Plan

Platform development
- The development time is estimated 3 months at a cost of €10K
- The optimal scenario is CEID / CTI to operate the platform

Key considerations
- Legal Issue
  - Before the act was passed in spring 2012, crowdfunding sites could reward investors with just products or discounts. But the act has given them the freedom to offer backers a stake in the business. However, there are still a lot of legal issues, making crowdfunding complicated, from this aspect
  - Legal aspect becomes more complicated because, platform is going to finance research in Greek Universities (which is a State privilege)
- The administrative / marketing expenses (through internships, diploma thesis, alumni fees?)

Why platform will solve the problem
- Pioneer platform in Greek scientific environment
- Fairer distribution of funds (%)
- Not only money but also crowdsourcing for supplies / systems sharing
- Greek researchers will enjoy all the advantages of crowdfunding
- Interaction researchers – society – market
Crowdfunding Platform for the Financing of Research Projects

Thank you for your attention