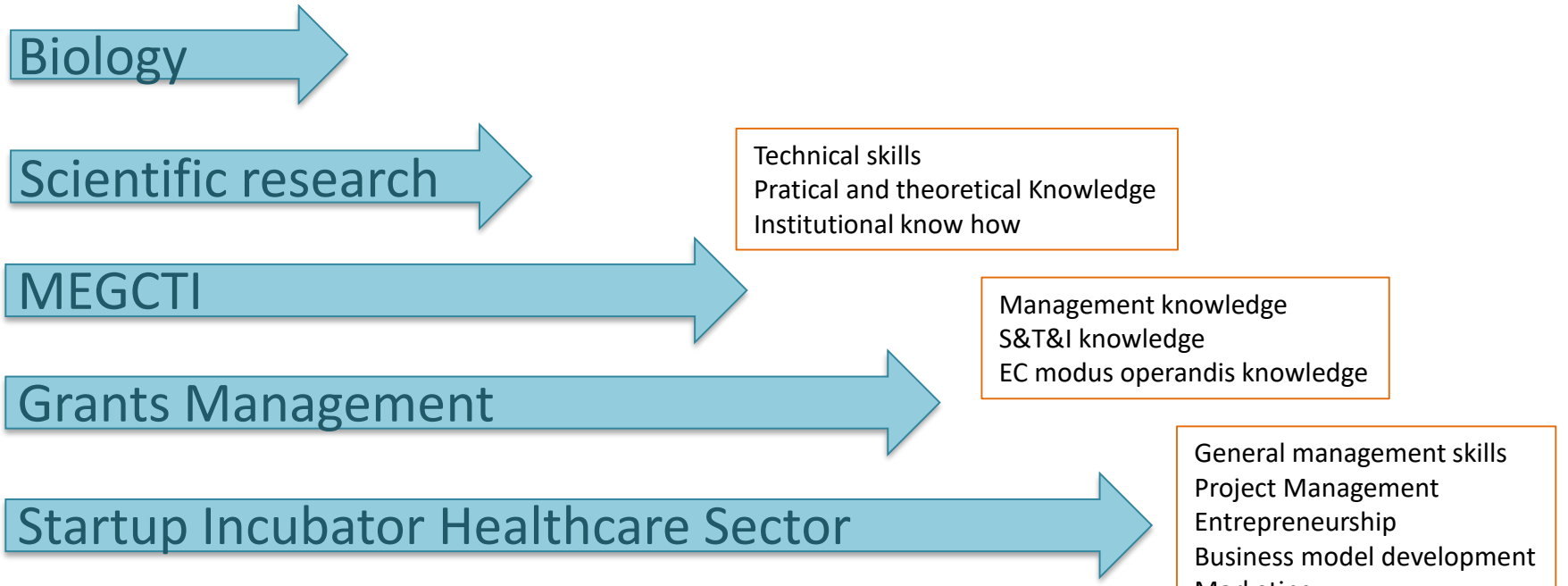
My path…


Biology
Scientific research
Technical skills
Pratical and theoretical Knowledge
Institutional know how
MEGCTI
Management knowledge
S&T&I knowledge
EC modus operandis knowledge
Grants Management
Startup Incubator Healthcare Sector
General management skills
Project Management
Entrepreneurship
Business model development
Marketing
Technology Transfer

Mestrado em Economia e Gestão de Ciência, Tecnologia e Inovação

Trabalho Final de Mestrado

Dissertação

The role of science and technology management companies in the set-up and coordination of multi-partner scientific alliances

Inês Mendes Matias

Orientação:

Professor Dr. Vítor Corado Simões

Mestrado em Economia e Gestão de Ciência, Tecnologia e Inovação

2013/2014, Semestre 1			
Ciência e Economia	-	-	
Economia da Inovação e do Conhecimento	-	-	
Empreendedorismo	CEMP	-	
Métodos Quantitativos Aplicados	-	-	
Teoria Económica	-	-	
2013/2014, Semestre 2			
Avaliação de Políticas e Programas de C& T	-	-	
Ciência, Tecnologia, Sociedade e Organizações	-	-	
Comunicação em C& T e Inovação	-	-	
Gestão da Tecnologia e Inovação	-	-	
Marketing da Inovação e Novos Produtos	-	-	
Política de Ciência e Tecnologia	-	-	
2014/2015, Semestre 1			
Análise de Investimentos	CEMP	-	
Aspectos Internacionais da Tecnologia e da Inovação	-	-	
Complementos de Estratégia Tecnológica e da Inovação	-	-	
Dissertação 1	-	-	
Protecção e Propriedade Industrial	-	-	
Seminário	-	-	

I – LITERATURE REVIEW

EUROPEAN PROBLEM: The creation of a competitive and attractive European Research Area

- Globally R&I leaders: EU, USA, Japan
- BRICS share in global expenditure on R&D has double 2000-2009;
- Europe has been promoting scientific and technological cooperation across borders:
  - CERN (1954);
  - ESA (1964);
  - EMBL (1973);
  - ESF (1974)
  - EUREKA programme (1985);
  - COST Actions (1971)
- European Commission Framework Programmes (FP);

FP7 Interim evaluation (2010):

- Lack of critical mass;
- Need for intensification of international cooperation outside Europe;
- Development of an coherent Union's policy for international cooperation in R&I.

I – LITERATURE REVIEW

TRENDS IN INTERNATIONAL S&T POLICIES

① Growing number of indicators that point to an increasing relevance of collaborations in S&T;

② S&T is now seen as a mean to drive economic growth and create jobs;

③ Increase and broadening of international policy initiatives and tools to foster international S&T collaborations.

Jakob Edler (2010)

European Commission, Communication 2012:

"Enhancing and focusing EU international cooperation in R&I: a strategic approach"

Horizon 2020 – strategic approach to international cooperation in R&I

I – LITERATURE REVIEW

NETWORKS OF SCIENTIFIC COOPERATION

- Models for collaborative research: descriptive models
  - **Triple Helix Model** (Leydesdorff & Etzkowitz, 1995)
    - Model of university-industry-government relations
    - Knowledge Society

Networks of scientific cooperation

- Partners are geographically spread
- Partners have different backgrounds
- Collaborative research projects
  - Jointly planned (WP)
  - Jointly financed
  - Jointly executed

I – LITERATURE REVIEW

RESEARCH MANAGEMENT

- Complexity and diversity of actors;
- Complexity of managerial processes;
- Increasing number and competitiveness of funding opportunities;
- Increasing number of projects to be managed;

Research Managers

- Operational control of individual programmes and projects
  - Pre-award
  - Post-award
- Strategic choices about topics and directions (Policy)
- Technology transfer

"the process of leading, administering and creating value from research (…) a vital tool for Europe's economic and social prosperity."

European Research Advisory Board, 2007

"without excellent research management, Europe's research and technological developemnt will simply not deliver the benefits expected and needed."

European Research Advisory Board, 2007

II – METHODOLOGY

RESEARCH QUESTION

What is the role(s) of science and technology management companies in the set-up and coordination of multi-partner scientific alliances in Europe?

Approach #1: Collection of information that could serve as metrics to characterize such companies.

- Literature revision → Little empirical source of evidence about these companies
- Online survey → Companie's database based on a criterion
- Website analysis
- Statistical analysis of the collected information

Approach #2: Establish their profile and business approach within the European scientific scene.

Approach #3: Describe their interaction with the clients and their role in the set-up of multi-partners scientific alliances, based in the information collected in the previous approaches.

II – METHODOLOGY

ONLINE SURVEY

Companies' online survey

Aim: get a deeper perspective of the activities undertaken by the companies.

- Added-value proposition
- Number and type of collaborators
- Role of the company in the consortia
- Advertising and reaching new clients
- Success rates and compensation model
- Partnerships
- Competition
- Market
- Clients
- Most valued services

Consortia' online survey

Aim: obtain the customer perspective.

- Main reasons to recruit these companies' services
- Most valued services and skills
- Main limitations of this kind of service
- Would they recruit these service again.

First difficulty:
obtaining responses to the online surveys.

Solution:
consolidating the scarce information obtained by deeply analyzing the companies' websites.

II – METHODOLOGY

WEBSITE ANALYSIS

Second difficulty:
Lack of information available at the companies' websites, had to disregard a few categories

Table 1 – List of categories and subcategories

	Categories	Observations/Scope
Pre-Award	EU lobbying and networking	Determine if companies offer lobbying services within the EU.
	Proposal preparation	Determine if companies offer isolated services, such as proposal writing and preparation, strategic partnering, etc., or if they offer a full "package".
	Strategic partnering	
	Identification of funding opportunities	
Post-Award	Project Management	
	Dissemination and Communication	Some companies provide assistance in content writing and use of social media to help clients delivering complex and sophisticated messages in simple, clear and informative language.
	Exploitation	Some companies provide specialized support in matters such as IP Rights.
Business-related	Business development	Some companies offer business development services, which include business plan development, technology and competitive watch, product or service value analysis, private investment search, etc.
	Intellectual property & technology Transfer	
Other	Events Organization	Determine if companies offer services to organize scientific events, such as conferences, seminars and workshops.
	Training	Determine if companies offer training sessions in matters such as European programmes, grant writing and proposal preparation.
	Website & Tools	Determine if companies offer services in Information and Communication Technologies, such as Design services, Websites construction and maintenance and custom made tools.

- Size
- Type of clients

II – METHODOLOGY

STATISTICAL ANALYSIS

Can we identify groups of companies using as variables (or characteristics) the services offered by such companies?

Cluster analysis – exploratory technique that allows to group subjects or variables into homogeneous groups according to one or more shared features.

- Two-step cluster analysis

III – RESULTS

WEBSITE ANALYSIS

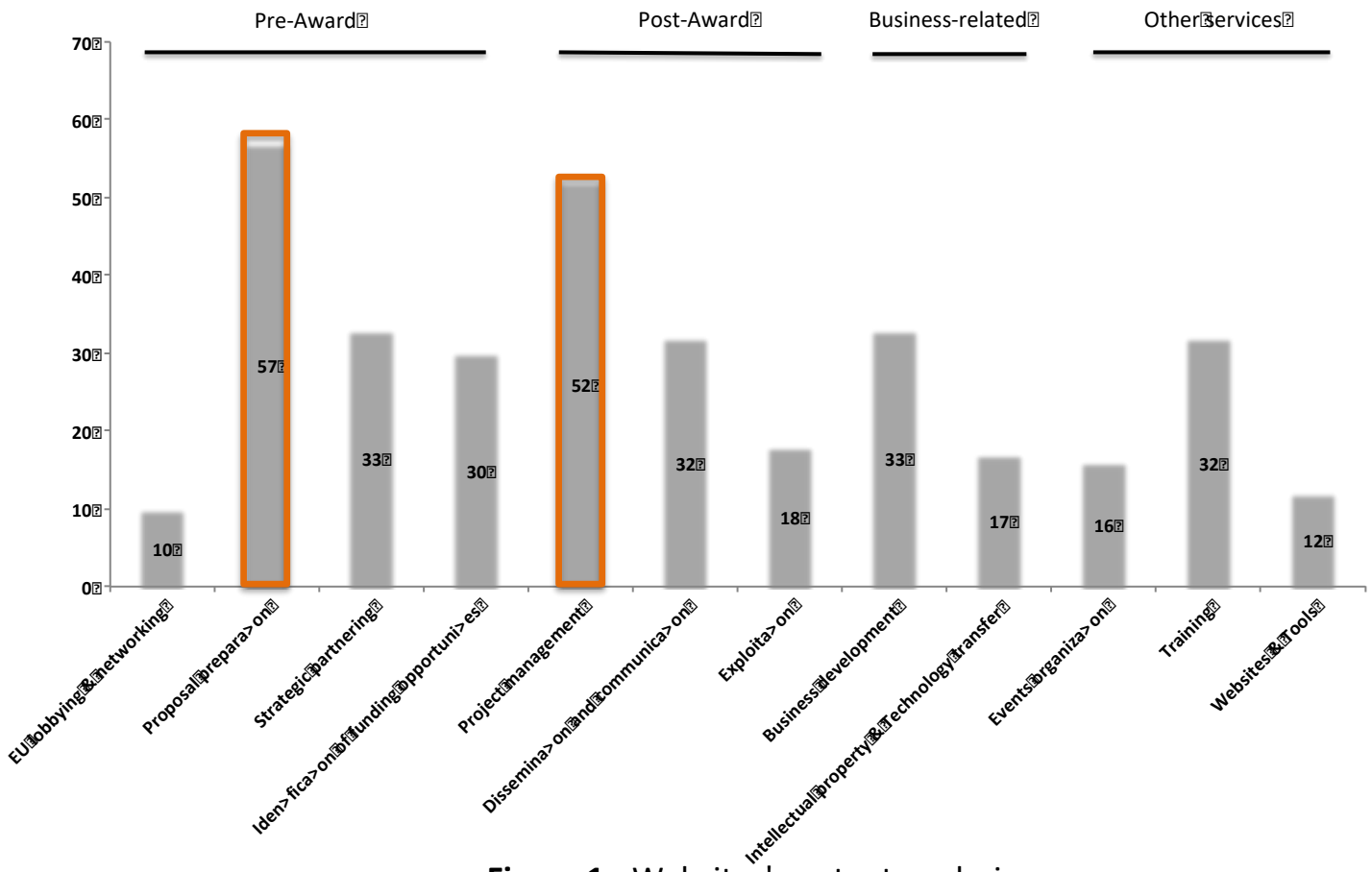


Figure 1 - Websites' content analysis

CLIENTS	#
Universities R&D centers	55
Companies/SMEs	63
TOTAL # COMPANIES = 66	

Figure 2 – Main Clients of S&T management companies

III – RESULTS

STATISTICAL ANALYSIS

Table 2 - Cluster distribution

Cluster Distribution

		N	% of Combined	% of Total
Cluster	1	20	30,3%	30,3%
	2	10	15,2%	15,2%
	3	13	19,7%	19,7%
	4	13	19,7%	19,7%
	5	10	15,2%	15,2%
	Combined	66	100,0%	100,0%
Total		66		100,0%

Table 3 - Cluster characterization

Clusters	Characterization	Label
1	Mainly formed by companies that are focused on pre-award activities and in managing the awarded projects (project management activities). These are classic companies that are mainly concerned with finding projects to manage. They follow the life cycle of funding projects, from cradle to grave, i.e., from the search of funding opportunities to the management of the project and related post-award activities.	**Pre-Award + Post-Award**
2	Formed by companies that also provide pre-award but that are more committed to the post-award time than cluster 1. These companies follow not only the management process of projects, but are in charge of the dissemination, communication and exploitation of the project's results. Additionally, cluster 2 companies provide business development services. Cluster 2 companies' are more dynamic, and show more concern with the project outcomes and whit the innovation potential may come from the projects.	**Pre-Award + Post-Award^{+}**
3	Mainly characterized by companies that are focused on business development, just giving support in getting the innovations products arising from the consortia projects near the market.	**Business Development**
4	Less focused on specific areas. Although also offering proposal preparation services and project management, cluster 4 companies' seem more focused in business development effort.	**Pre-Award+Post-Award+Business Development+Training**
5	Less focused on specific areas. Although also offering proposal preparation services and project management, cluster 5 companies' seem more focused in communication services (training, events, websites & tools).	**Pre-Award + Post-Award + Communication activities**

III – RESULTS

STATISTICAL ANALYSIS

Table 4 - Number and percentage of companies per size per cluster

	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5	
Companies' Size	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
1 to 10	7	35%	6	60%	3	23%	7	54%	5	50%
11 to 50	12	60%	1	10%	4	31%	5	38%	5	50%
51 to 200	1	5%	1	10%	3	23%	1	8%	-	-
201 to 500	-	-	1	10%	-	-	-	-	-	-
501 to 1000	-	-	1	10%	2	15%	-	-	-	-
1001 to 5000	-	-	-	-	1	8%	-	-	-	-
TOTAL	20	100%	10	100%	13	100%	13	100%	10	100%

- No correlation: cluster #2 has extra services but has a lower average size
- The number of the teams may vary according to the number of active projects each company has in their portfolio.

Table 5 - Type of clients per cluster

	Clients		
	Universities & R&D Centres	**Companies/SMEs**	**# companies in the cluster**
Cluster 1	18	18	20
Cluster 2	8	10	10
Cluster 3	9	13	13
Cluster 4	11	13	13
Cluster 5	9	9	10

IV – DISCUSSION OF THE RESULTS

	FINDINGS	INTERPRETATION	LITERATURE
SERVICES	Most companies offer proposal preparation and project management services.	May indicate the importance of these services from the researcher's perspective.	Vidal et al. 2015; EURAB 2007
	Most valued services, from the supplying companies' perspective: partner search and search of funding opportunities.	• Require specific know-how and skills that cannot be found in institutional offices. • Initial and critical steps of multi-partner alliances.	• Vidal et al. 2015; Langley 2012 • Not found.
SIZE	Size of the companies' team may be related to the specificities of the services and number of ongoing projects.	We are sceptical that it may be exclusively related to the number of projects each company has on going.	Not found.
COMPETITION	Institutional offices are not seen as competitors.	• Companies have extremely specialized know-how that G.O. do not have. • Advantage: extensive networks of contacts.	Not found.
CLIENTS	Lack of awareness by the clients identified as one of the main limitations to growth.	It may not only be a question of lack of awareness, but also lack of funds to hire the companies, mainly from public organizations.	Not found.
	Companies/SMEs contact more often S&T management companies than universities.	• More incentives to companies under the H2020. • SMEs have more funds to hire such companies.	European Commission, 2015;
	Main reasons to hire: increasing competitiveness and complexity of funding calls.	n/a	EURAB 2007; Brocke & Lippe 2015; Boardman & Bozeman 2006; Gusmão 2000; Nobelius 2004
SUCCESS RATE	Need to specify the programme/type of success rate.	n/a	Not found.

IV – CONCLUSIONS

- Highlight the importance of this topic;
- The need for more studies;
- There is a huge potential for grow in this business sector but it may exist a generalized lack of awareness.

Suggestions for future studies:

- Customer's perspective;
- Comparison between S&T management companies' and institutional grants office's collaborators background;
- Analysis of the evolution of collaborations within EC programmes and their success rates;
- Statistics:
  - for the most collaborative countries within EU;
  - the number of S&T management companies registered at each EU country.

IV – CONCLUSIONS

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Chapter 6: Conclusions

This piece of research aimed to show how science management companies could be important assets, especially within the increasingly competitive funding opportunities under the European Commission new framework, the Horizon 2020. However, due to the several difficulties and limitations felt during the development of this study, such has lack of information and lack of time, we were not able to collect enough evidence to show it.

We could not identify and/or understand the role of science and technology management companies in the set-up and coordination of multi-partner scientific alliances, but we believe we have unravelled some hints that are interesting enough to catch other researchers attention to these companies' activities and business approaches.