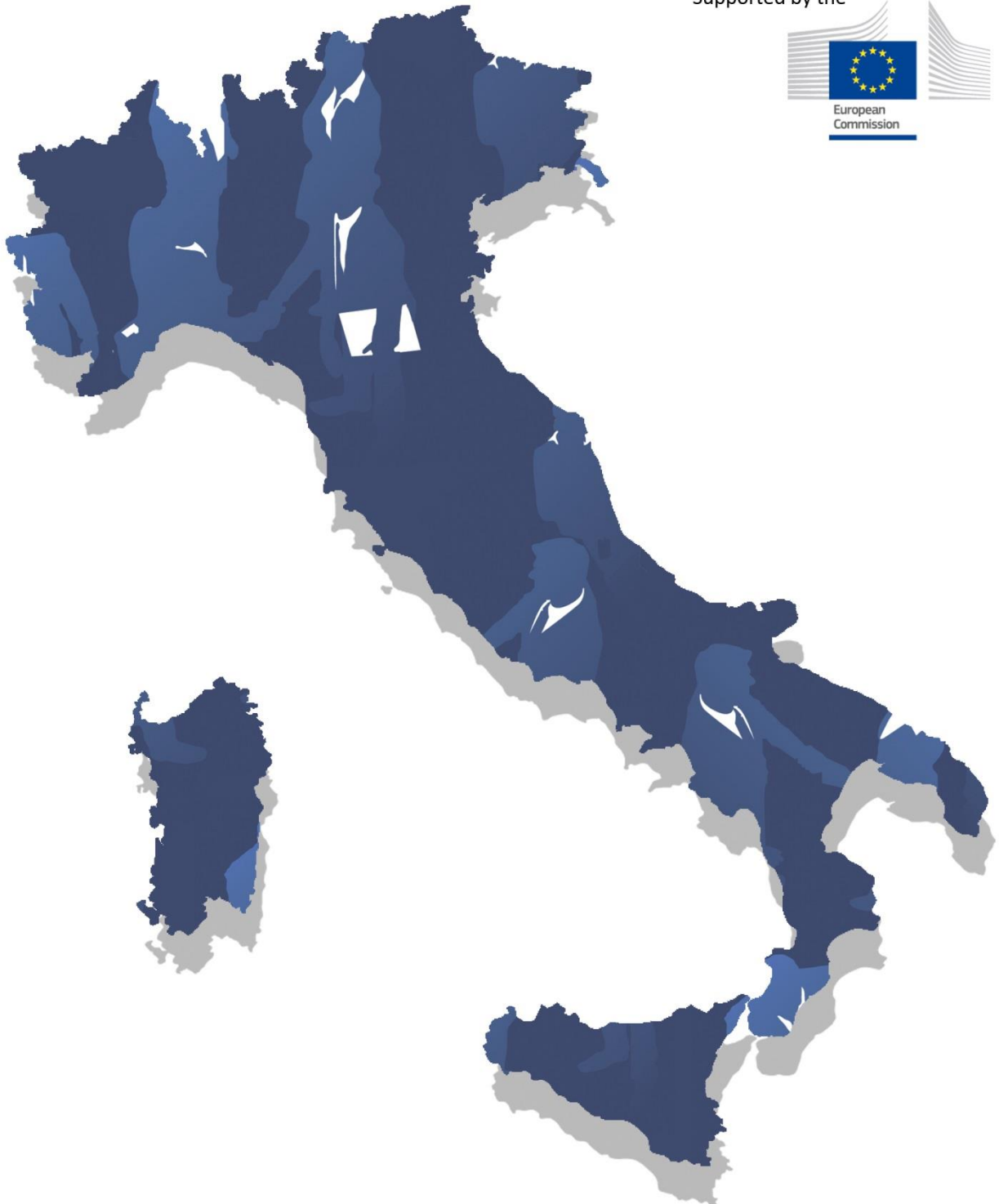


The State of University-Business Cooperation in Italy

Part of the DG Education and Culture
Study on the Cooperation Between
Higher Education Institutions and
Public and Private Organisations in Europe

December 18th, 2013

Supported by the



Abbreviations

EC	European Commission
HEI	Higher Education Institution
LLL	Lifelong Learning
R&D	Research and development
SME	Small- and medium-sized company
S2BMRC	Science-to-Business Marketing Research Centre
TTO	Technology Transfer Office
UB	University-Business
UBC	University-Business Cooperation
UPB	University professional working with business

UBC Country Reports: logic and characteristics

The UBC country reports compare the continental results of the major *State of European UBC* study (Davey et al., 2011), with the results obtained in a specific country. The reports are designed to be complementary to the major study and highlight the diversity amongst European countries. Additionally, by offering more concrete results at national level, it is believed, the country specific report provides more appropriate decision-making material for most stakeholders, whose jurisdiction is restricted to the regional or country level.

The reports present mostly descriptive data and are not intended to be a comprehensive or detailed study of each of the countries or a ranking among EU countries. Instead, the reports are provided to all stakeholders simultaneously (academics, HEI managers, policy makers at different levels, business, etc.) and unlike the European report, are expected to provide some opportunity for individual stakeholder interpretation and resulting actions, according to their local understanding and different roles within the UBC ecosystem.

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Executive summary

No matter who is right, there is significant room for improvement in Italian university-business cooperation

In a study of European university-business cooperation (UBC), the results from Italy show that there are often two different (often very different) perceptions of its development in Italy depending on whether it is HEI managers or academics answering the question. Italian HEI managers rate the extent of Italian UBC generally as moderately developed and average in Europe, whilst Italian academics rate their own extent of UBC as low and one of the least developed in Europe. Again, the two groups have very different assessments of the development of mechanisms that support UBC, with HEI managers saying that they are moderately developed and academics saying that there is a low development of UBC *Strategies* in Italian HEIs. Furthermore, academics perceive the personal *Benefits* from UBC to be also low, a sure inhibitor to UBC in Italy. There are, however some areas of accord. Both groups of respondent assess the primary *Barriers* to UBC in their country to be some of the highest in Europe, with the greatest *Barriers* being '*funding Barriers*' and bureaucracy. Both groups also perceived UBC *Drivers* to be above the EU average. Whichever group is right; it can be concluded that there is a lot of room for improvement in the development of UBC in Italy. Increasing perceived *Benefits* for academics, reducing the perceived UBC financial *Barriers* and implementing a greater level of UBC *Supporting mechanisms* are priorities, as is reducing the 'perception-gap' between the two groups.

About the study

The results presented in this report were from a study commissioned by the European Commission (EC). Surveys were sent out to all registered European HEIs in 33 countries in 2011. In total, 6,280 responses were received from European academics and HEI management (HEI managers and HEI professionals working with industry) whilst from Italy, 419 responses from academics (324) and HEI management (95) were received. The study measured the perceptions of these two groups in respect to their own cooperation efforts and those of their university respectively.

'*Mobility of students*' and '*Curriculum development and delivery*' are the most developed forms of UBC

The most developed types of UBC in Italy are: (1) *Mobility of Students*, (2), *Curriculum development and*

delivery, (3) *Collaboration in R&D* with the least developed type being *Mobility of Academics* slightly ahead of *Governance*. In respect to the European average, Italy performs about at the European average, however with less than average development of *Collaboration in R&D* and *Commercialisation of R&D results*. Italian academics have a slightly less positive view, rating themselves as low-medium to low in terms of all types of UBC, the bottom three amongst European countries which highlights an area for improvement.

Financing UBC and bureaucracy are major Barriers to UBC

The primary *Barriers* to UBC in Italy are: (1) 'lack of university funding for UBC', (2) 'the current financial crisis', (3) 'lack of external funding for UBC', which shows that financing UBC, and the current economic situation, is indeed perceived to be a *Barrier* to UBC in Italy. Both HEI managers and academics rate Italy as having some of the highest UBC *Barriers* in Europe. Italian academics perceive the UBC *Barriers* slightly differently to the HEI management assessing '*relational Barriers*' to be almost as high as '*financial Barriers*'. There is one further area of substantial difference between the two groups: perception of bureaucracy as a UBC *Barrier*, with HEI management underestimating bureaucracy as a UBC *Barrier* within the HEI.

Relationships drive cooperation in Italy

Italian HEI management and academics alike name '*relationship Drivers*' as the primary *Drivers* of UBC. As in Europe generally, '*relationships Drivers*' such as (1) 'existence of mutual trust', (2) 'existence of mutual commitment' and (3) 'having a shared goal' were nominated as the biggest UBC *Drivers*. This suggests that greater effort to bring academics together with business could be a focus for further improvement of cooperation. As negative as were the results for *Barriers* of UBC, the Italians are compensatory in their positivity about the *Drivers* of UBC, perceiving the *Drivers* for UBC at a slightly greater level than their European counterparts, and making it one of the most positive for UBC *Drivers* in Europe.

Considering the *Barriers* and *Drivers* together, the relatively high perceived *Barriers* in Italy are offset by the above average perception of *Drivers*, and as such, contribute to an environment that is neutral for UBC in Italy.

Academics perceive lesser personal benefits from UBC

Italian academics perceive the primary winners from UBC to be: (1) students, (2) business (about the EU average), (3), the HEI and lastly (iv) personal *Benefits* (both lower than the EU average). A very low amount of academics state that UBC 'improves their standing within the university' or 'increases their chances of promotion', with both well below the EU average. These results imply that academics need to receive greater personal *Benefits* from their HEI in terms of chances of promotion in order to increase UBC activity. HEI management state that (1) students and (2) HEIs (substantially higher than the EU average) are the biggest winners from UBC whilst (3) business and (4) society (though considerably higher than the EU average) get a reduced, but still high, amount of benefits.

Italy needs greater development of UBC supporting mechanisms

HEI managers in Italy perceive that UBC *Strategies* are generally moderately developed in Italian HEIs. All '*documented UBC Strategies*' including 'Strategy for UBC' and 'a documented mission/vision embracing UBC' were rated as some of the most developed *Strategies*, however much lower than the European average. Being slightly lower than the EU average, there is also still some room for improvement in respect to '*implementation Strategies*' especially in the 'inclusion of UBC as part of the work assessment of academics' and 'providing incentives to academics for UBC'. Italian academics perceive the *Strategies* for UBC in Italian HEIs as being lowly developed, in fact some of the lowest developed in Europe, particularly strategies that embed UBC in the HEI ('*implementation Strategies*').

'*Internal/External agencies dedicated to UBC*' are more developed than '*role-based Approaches*' in Italy, but are less developed in Italian HEIs than in Europe. 'Career offices within the university', 'board member or vice rector positions for UBC', and 'agencies within the HEI dedicated to UBC' the most developed *Structures and approaches* in Italy as well as being at, or slightly above, the EU average. 'Agencies external to the university dedicated to UBC', 'an alumni network' and 'the presence of business people on the HEI board' are the least developed *Structures and Approaches* and are substantially below the EU average.

Italy has a moderate level of development of UBC *Activities*, slightly less than the European average, though 'externally focused networking, promotional and project activities' are developed to the EU average. *Activities* focussed on academics are some of the lowest developed *Activities* in Italy, particularly

'entrepreneurship education offered to academics', being well below the EU average.

Introduction

Background

With the creation of the Europe 2020 programme, the European Union's (EU) growth strategy for the coming decade, and the higher education modernisation agenda, Europe is embracing the need to create a more connected and functioning relationship between government, business and HEI in order to increase employment, productivity and social cohesion¹. If fostering UBC is understood as 'interactions' between HEIs and businesses for mutual *Benefit*, then fostering UBC and extracting its value can help society face a number of issues. UBC helps universities to face the problem of decreasing public funds², helps businesses to gain and maintain their competitive advantage in today's dynamic international markets, contributes to the economic development on a regional and national level³ as well as meeting the demands of the labour market to provide more relevant knowledge and skills and greater job prospects of students⁴. Additionally, there are substantial indirect outcomes of UBC including support in the creation of a knowledge economy⁵, support for local business⁶, creation of jobs⁷, stimulation of economic growth and increased living standards whilst reducing hindrances to good living⁸. In this context, UBC creates mutual benefit for all parties involved, and for the wider society.

Over the last few decades there has been a dramatic shift in the focus of HEIs and policy makers towards the HEI's so-called 'third mission'. Through this, HEIs have had their roles focussed to a greater extent on the need to contribute to society in a more meaningful way through knowledge and technology creation, transfer and exchange⁹. In recent years, the focus has been extended to recognise all the ways in which HEIs can contribute to society including *Lifelong learning* (LLL), *Entrepreneurship* or exchanges of workers with businesses as means to reach the third mission. Owing to this, the holistic extraction of value via UBC has become more important for the viability and relevance of HEIs as the *Benefits* of closer and better cooperation between HEIs and businesses and the *Benefits* for the students have been increasingly recognised.

¹ European Commission, 2011

² Carayol, 2003

³ OECD, 2002

⁴ Bozeman and Boardman, 2013

⁵ Etzkowitz & Leydesdorff, 2000

⁶ Davey et al., 2011

⁷ *ibid*

⁸ Etzkowitz & Leydesdorff, 2000

⁹ *ibid*

Objective

The objective of this report is to evaluate the current status of UBC in Italy and benchmark these outcomes against European HEIs. As a result of this analysis, the reader will have a clearer understanding of the extent of cooperation with business. Furthermore, the report aims to highlight the *Barriers* and *Drivers* preventing or motivating cooperation as well as the extent of development of mechanisms supporting UBC, in comparison with the European average.

Methodology

The survey

The survey was created during a project completed with the EC in a fifteen and a half month study on the cooperation between HEIs and public and private organisations in Europe. The main components of the project were in-depth qualitative interviews with 10 recognised industry experts as well as a major quantitative survey. The survey was translated into 22 languages and sent to all registered European HEIs (numbering over 3,000) in 33 countries during March 2011. Through this, a final sample of 6,280 academics and HEI management was achieved making the study the largest study into cooperation between HEIs and business yet completed in Europe.

Questions were posed to two groups within HEIs. These groups were asked about their perception of UBC:

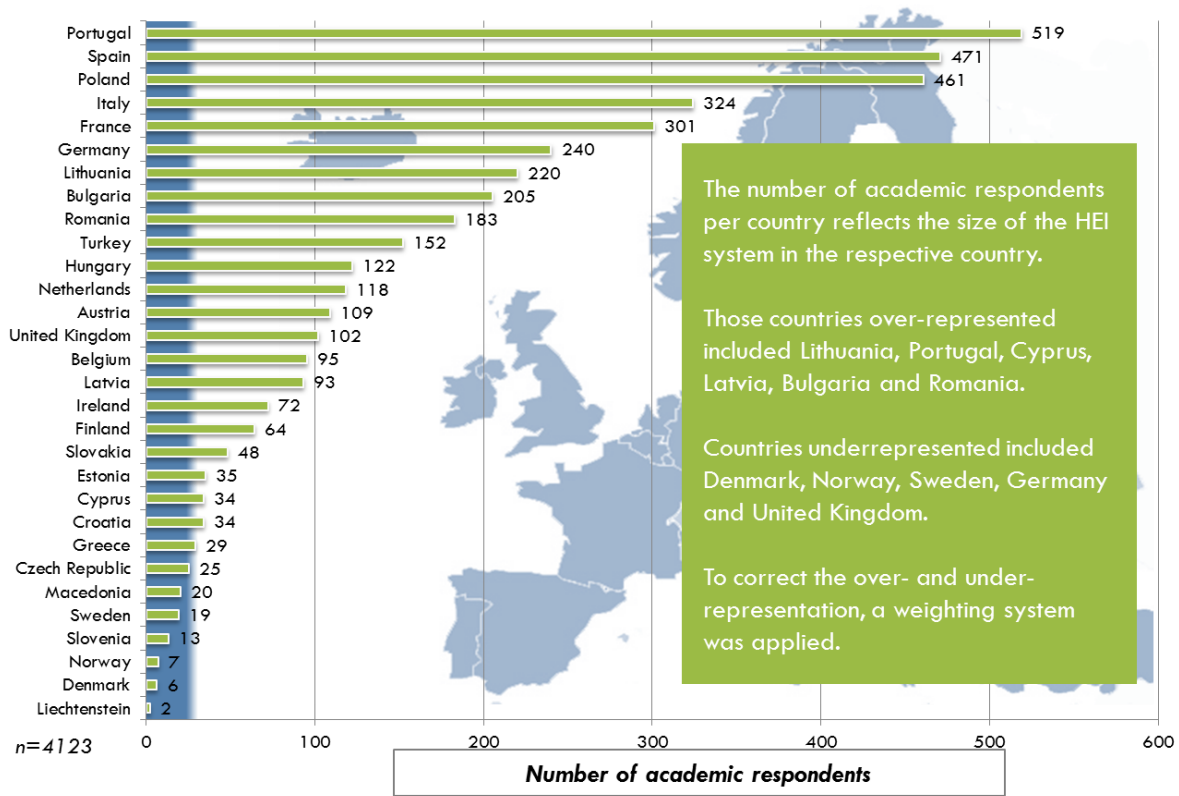
1. **Individual academics** were asked to respond on behalf of themselves.
2. **HEI management** (HEI managers and university professionals working with industry) were asked to respond on behalf of their HEI.

	Focus	Responded on behalf of	Colour code for results
1	Academics	Indv. academics	Green
2	HEIs	HEI management and university professionals working with industry	Orange

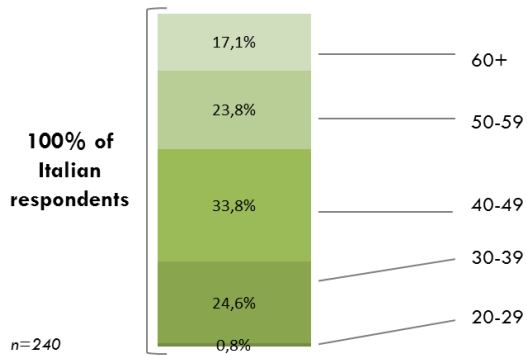
Colour codes have been used throughout the report to identify those results received from the academic (green) and those results received from the HEI (orange).

Respondents (academic)

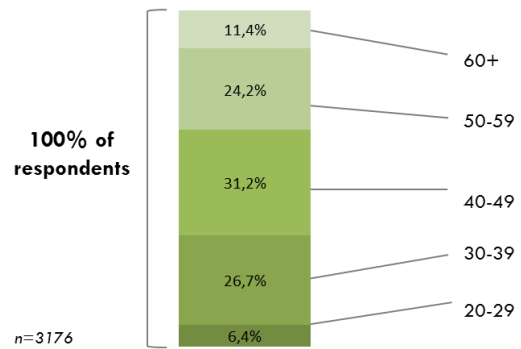
Country



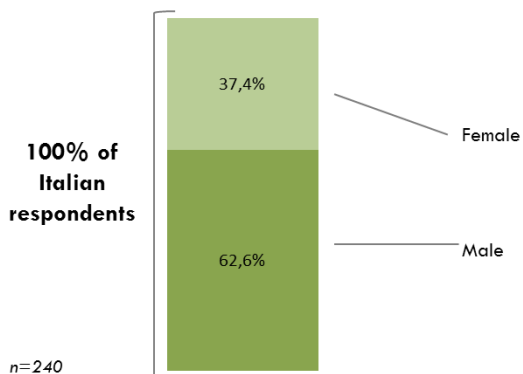
Age of respondents in Italy



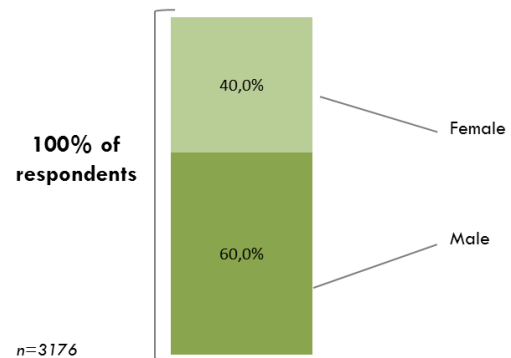
Age of respondents in Europe



Gender of respondents in Italy

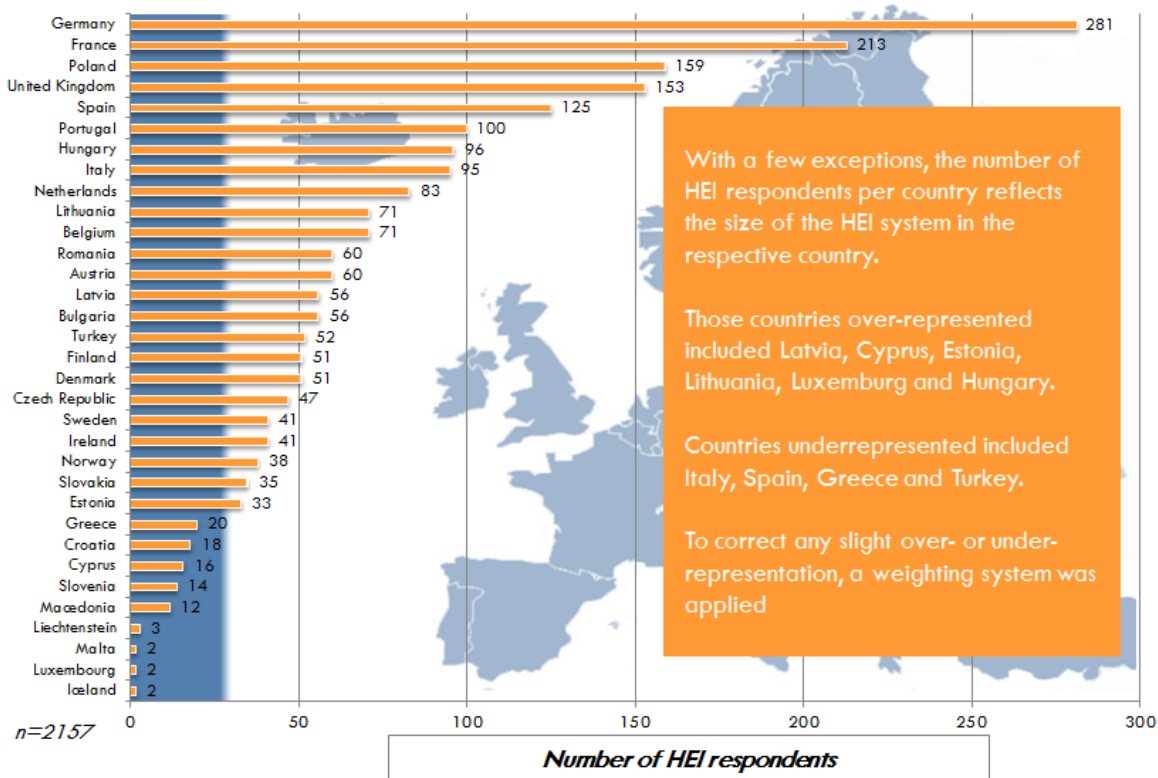


Gender of respondents in Europe

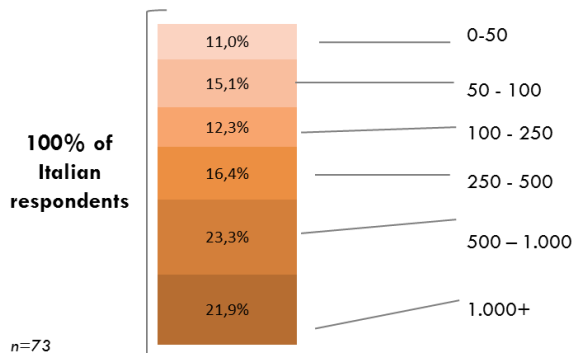


Respondents (HEIs)

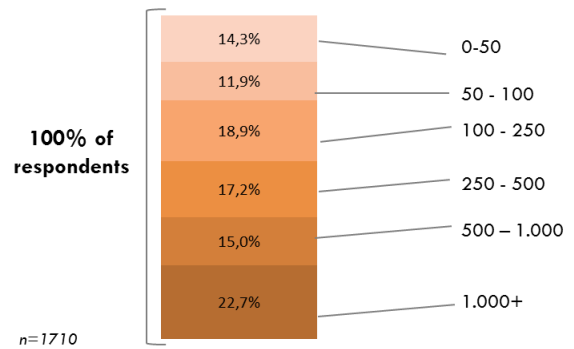
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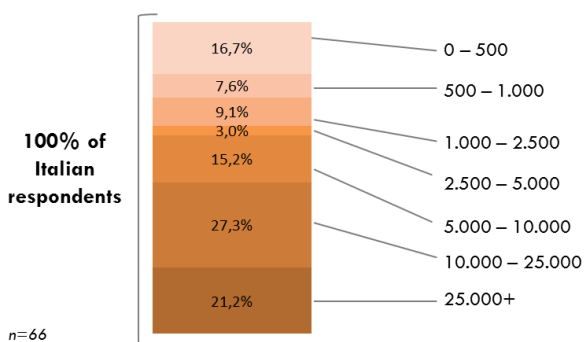
Number of academics per HEI in Italy



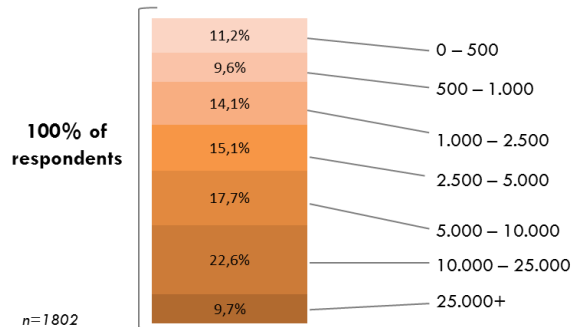
Number of academics per HEI in Europe



Number of students per HEI in Italy



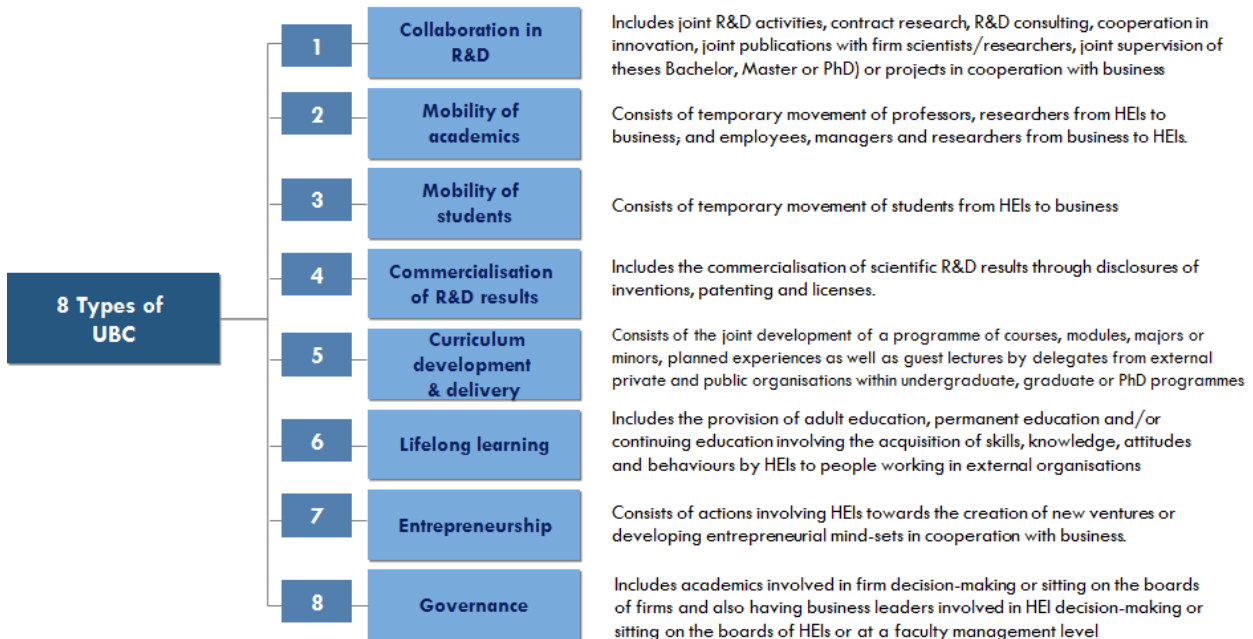
Number of students per HEI in Europe



Results

Extent of UBC

There have been eight types of cooperation recognised between university and business as found in the *State of European UBC Report* with the following descriptions:



3 clusters of HEI cooperation

In respect to cooperation with business it was found that HEIs could also be categorised into 3 clusters:

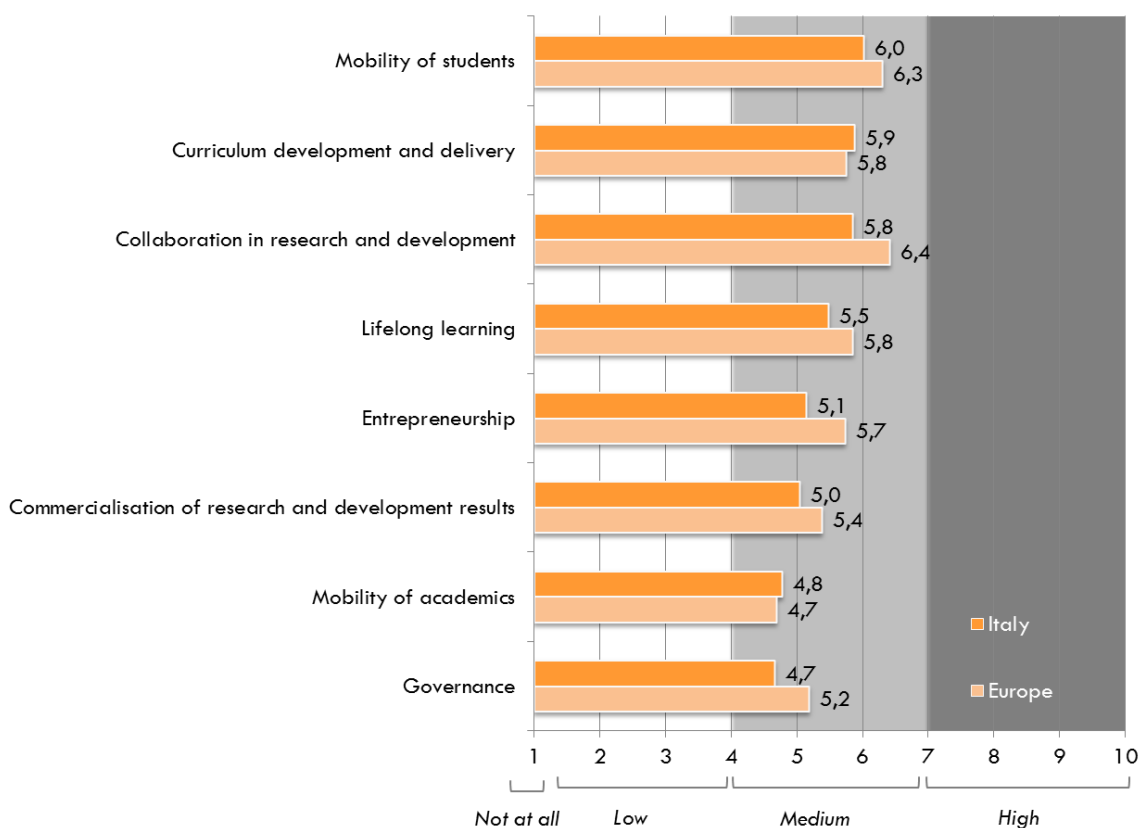
1. the 'innovators' undertaking a higher level for all types of UBC,
2. the 'majority' undertaking a medium level for all types of UBC,
3. the 'laggards' executing generally a low level (or not at all) for all types of UBC.

Relationship among cooperation types

The study identified that HEIs tend to cooperate at a similar level in all UBC types e.g. if they cooperate to a high extent with business in *Collaboration in R&D*, they cooperated to a similar extent for all the types of UBC.

Extent of University-Business Cooperation in Italy

As answered by HEI management



Italian academics

Responses from Italian academics about their own level of UBC show an extent consistently below the EU average (in brackets) and that they perceive

'Collaboration in R&D' to be the highest developed type of UBC.

Italian Academics	Collaboration in R&D	Academic Mobility	Student Mobility	Commercialisation of R&D results	Curriculum development & delivery	Lifelong learning	Entrepreneurship	Governance
	4,4 (5,0)	2,5 (3,2)	3,8 (4,3)	3,3 (4,1)	3,1 (4,3)	3,7 (4,3)	2,5 (3,4)	2,3 (3,1)

Extent of cooperation in Italy

There is a low degree of diversity in the development of the different types of UBC in Italy, with 'Mobility of students' (6.0), Curriculum development and delivery (5.9) and Collaboration in R&D (5.8) as the most developed types.

Benchmarking Italy

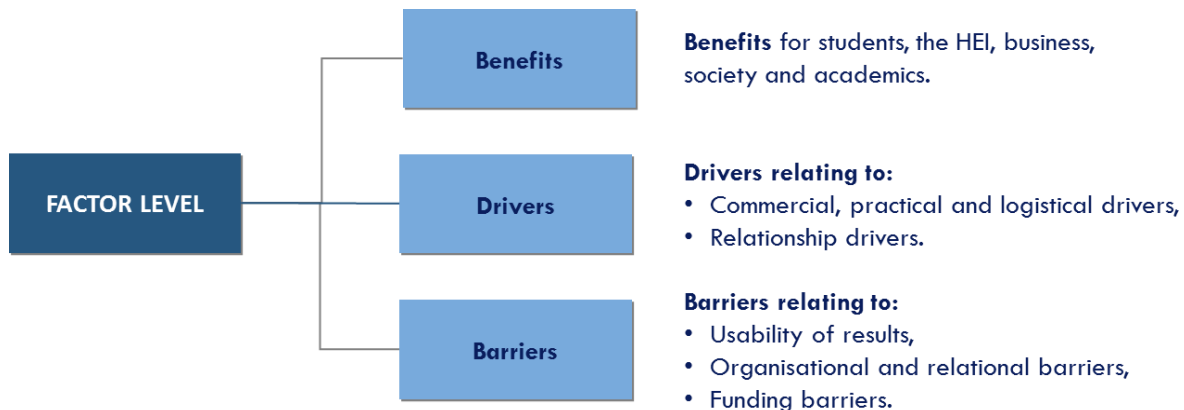
According to the results, Italian HEI management report the extent of UBC being approximately on the same level as the European average, however ranking a bit lower on all types except for Curriculum development and delivery.

In comparison with the European average, the extent of development of UBC types is as follows:

	Italy	Europe
Highly developed	-	-
Moderately developed	<ol style="list-style-type: none"> 1. Mobility of Students 2. Curriculum development and delivery 3. Collaboration in R&D 4. Lifelong Learning 5. Entrepreneurship 6. Commercialisation of R&D results 7. Mobility of Academics 8. Governance 	<ol style="list-style-type: none"> 1. Collaboration in R&D 2. Mobility of Students 3. Lifelong Learning 4. Curriculum development and delivery 5. Entrepreneurship 6. Commercialisation of R&D results 7. Governance 8. Mobility of Academics

Factors influencing the extent of UBC

The coming section will outline the extent to which a number of factors affect cooperation within business in Italy. These factors have been found to significantly influence cooperation within the European context.



Relationship between *Barriers* and *Drivers*

A *Barrier* provides a hindrance or obstacle to do something, while a *Driver* provides the motivation to do that thing. More specifically, removing a *Barrier* does not create UBC, rather it makes UBC possible. Instead it is the *Driver* that means that an academic cooperates with business. As an example, even when the lack of funds is nominated as the highest *Barrier* (obstacle), owing to the impossibility of cooperating without funds, the presence of funds may not be enough to cooperate if the 'relationship *Drivers*' or perceived *Benefits* (motivators) are not developed.

Benefits explained

Benefits are the perceived positive outcome (financial and non-financial) from undertaking UBC for the different stakeholders groups that can potentially participate in UBC. This perception can be a reason to increase or decrease their participation or the involvement of other groups. For example, if academics perceive their own *Benefits* to be low, that might cause a low participation in UBC and if they perceive that *Benefits* for students are high, they might undertake actions that contribute to students' involvement in UBC.

Barriers hindering UBC in Italy

Barriers are those obstacles that restrict or inhibit the ability of academics or HEIs to engage in UBC.

The following table explains the extent of relevance of *Barriers* to UBC by academics (green) and HEIs (orange) in Italy compared to the EU average. The *Barriers* have been factored into 'meta-groups' in order to provide a more strategic understanding.

Barriers (grouped) to cooperation – Italy vs. Europe

As answered by academics and HEI management

Usability of results	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Italy		Europe	
	ACAD	HEI	ACAD	HEI
<ul style="list-style-type: none"> The focus on producing practical results by business, The need for business to have confidentiality of research results, Business fear that their knowledge will be disclosed. 	6.2	5.7	6.1	6.0

Funding barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Italy		Europe	
	ACAD	HEI	ACAD	HEI
<ul style="list-style-type: none"> Lack of external funding for University-Business cooperation, Lack of financial resources of the business, Lack of HEI funding for UBC, The current financial crises. 	7.2	7.7	6.5	6.8

Relational barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Italy		Europe	
	ACAD	HEI	ACAD	HEI
<ul style="list-style-type: none"> Business lack awareness of HEI research activities / offerings, The limited absorption capacity of SMEs to take on internships or projects, Differing time horizons between HEI and business, Differing motivation / values between HEI and business, Universities lack awareness of opportunities arising from UB-cooperation, Bureaucracy within or external to the HEI , Limited ability of business to absorb research findings, Differing mode of communication and language between HEI and business, A lack of contact people with scientific knowledge within business, Difficulty in finding the appropriate collaboration partner, No appropriate initial contact person within either the HEI or business. 	7.0	6.5	6.4	6.2

Three groups of UBC Barriers

Resulting from a factor analysis of the results, *Barriers* can be categorised in the following groups:

1. *usability of results,*
2. *funding Barriers* and
3. *relational Barriers.*

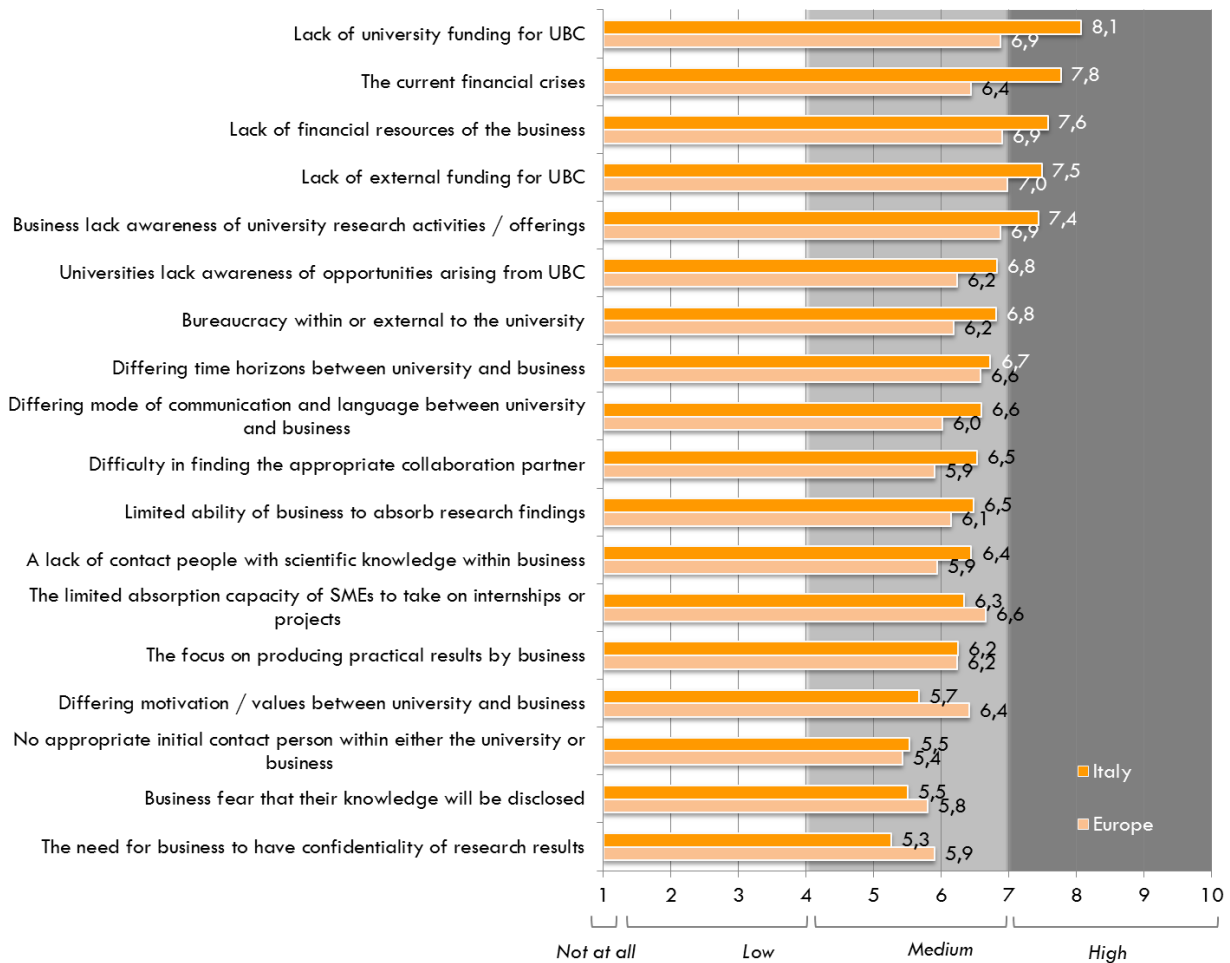
Bureaucracy as a Barrier

The results for Italy show that there is a considerable difference between the opinions of HEI managers and academics about bureaucracy as a UBC *Barrier*. HEI management perceive there to be a lower amount of 'bureaucracy within or external to the university' (6.8) (see the diagram on the next page) than academics

(7.8), and therefore highlights that HEI manager are underestimating bureaucracy as a UBC *Barrier*. Whereas most university staff perceive bureaucracy as a barrier when it comes to obtaining public funds not directly provided by FFO.

Main Barriers to cooperation – Italy vs. Europe

As answered by HEI management



Funding Barriers are the biggest Barriers to UBC in Italy (see graph above and table from previous page)

The by far most prominent Barriers named by the Italian HEI management are those related to the 'funding Barriers' including 'lack of university funding for UBC' (8.1), 'the current financial crisis' (7.8), 'lack of financial resources of the business' (7.6) and 'lack of external funding for UBC' (7.5). Even whilst there are many national and regional regulations stimulating R&D relationships, these new funds do not compensate for the large reduction in FFO funds for HEIs in Italy.

In addition to the 'funding barrier', Italian HEI management reported the 'business lack awareness of university research activities / offerings' (7.4) as a key issue. Where the 'funding Barriers' seem to be an issue in Italy, the 'usability of results' seem to be less of a Barrier, with 'business fear that their knowledge will be disclosed' (5.5) and 'the need for business to have confidentiality of research results' (5.3) at the end of the graph.

Funding and relationships are key in Italy (see graph above and previous page)

Italian HEI management assess both the 'funding Barriers' and 'relational Barriers' higher than their European counterparts (7.7 compared to 6.8 and 6.5 compared to 6.2). The Italian HEI managers perceived the Barriers for 'usability of results' to be of lower importance. Despite this, previous research has shown that HEI management underestimate the size of the bureaucratic Barriers to UBC with academics stating this as one of the most prominent factors (Davey *et al.*, 2011). In respect to 'bureaucracy within or external to the HEI', Italian HEI manager perceive it to be a moderate Barrier scoring it at 6.8, however Italian academics perceived this Barrier to be much higher at 7.8 and therefore one of the major Barriers to UBC.

Main Barriers to UBC in Italy	
1.	Lack of university funding for UBC
2.	The current financial crisis
3.	Lack of financial resources of the business
4.	Lack of external funding for UBC
5.	Business lack awareness of university research activities / offerings

Drivers stimulating UBC in Italy

Drivers are those factors that encourage academics or HEIs to engage in UBC.

The following table explains the extent of relevance of *Drivers* of UBC by academics (green) and HEIs (orange) in Italy compared to the EU average. The *Drivers* have been factored into 'meta-groups' to provide a more strategic understanding.

Two groups of UBC Drivers

Resulting from a factor analysis of the results, *Drivers* can be categorised in the following groups:

1. *Relationship Drivers* and
2. *Business Drivers*.

Drivers (grouped) of cooperation – Italy vs. Europe

As answered by academics and HEI management

Relationship drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Italy		Europe	
		ACAD	7.2	ACAD
	HEI	7.0	HEI	7.0

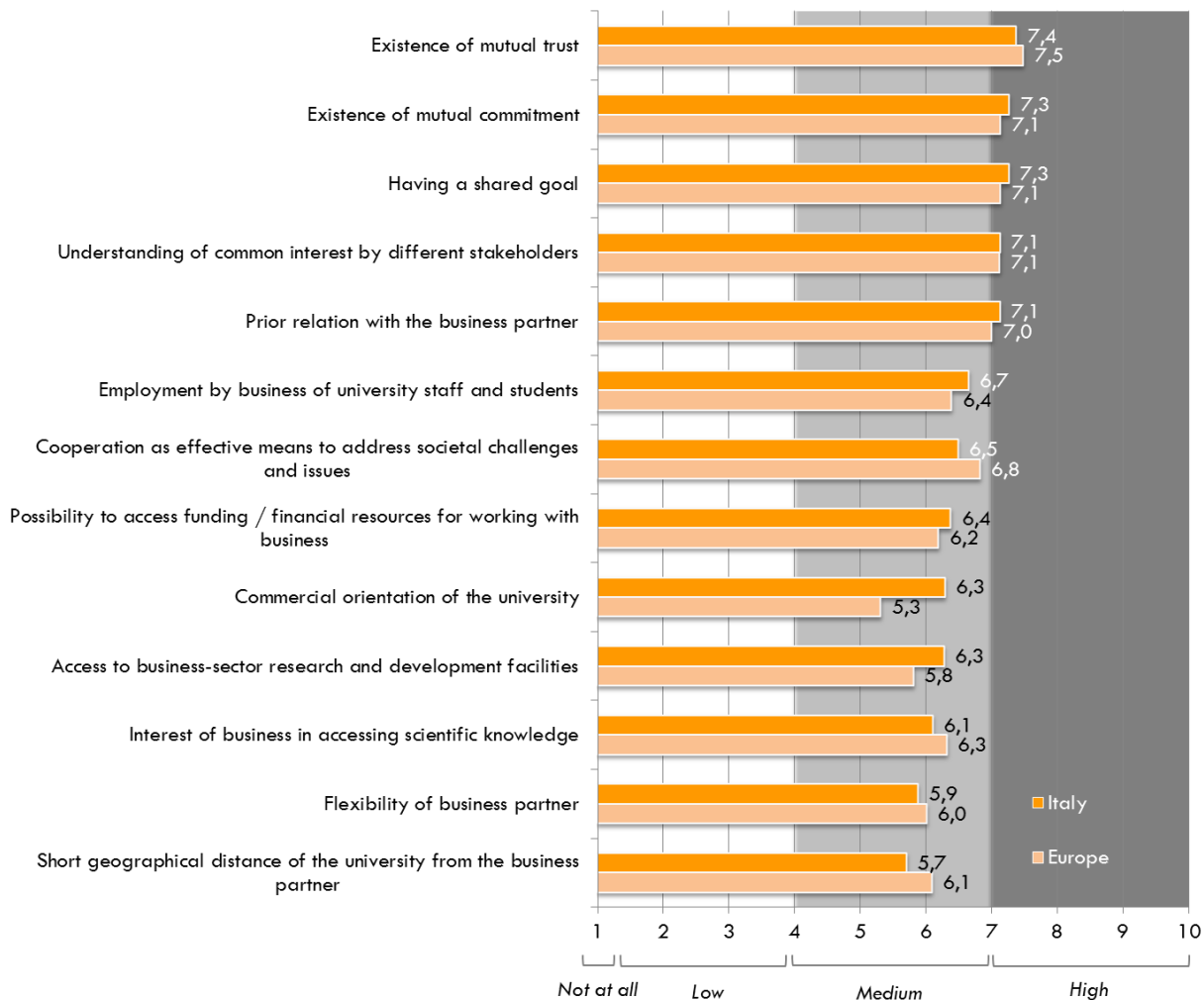
- Existence of mutual trust,
- Existence of mutual commitment,
- Having a shared goal,
- Understanding of common interest by different stakeholders (e.g. universities; business; individuals; students),
- Prior relation with the business partner,
- Cooperation as effective means to address societal challenges and issues.

Business drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Italy		Europe	
		ACAD	6.3	ACAD
	HEI	6.2	HEI	6.7

- Employment by business of HEI staff and students,
- Interest of business in accessing scientific knowledge,
- Possibility to access funding / financial resources for working with business,
- Short geographical distance of the HEI from the business partner
- Flexibility of business partner,
- Access to business-sector research and development facilities
- Commercial orientation of the HEI.

Main Drivers of cooperation – Italy v Europe

As answered by HEI management



Relationships drive UBC in Italy (see graph above and table from previous page)

The HEI management in Italy perceives the highest Drivers of UBC to be 'relationship Drivers' such as 'existence of mutual trust' (7.4), 'existence of mutual commitment' (7.3), 'having a shared goal' (7.3) and 'understanding of common interest by different stakeholders' (7.1).

Compared to the 'relationship Drivers', most 'business Drivers' are seen as less important, including 'access to business-sector research and development facilities' (6.3), 'interest of business accessing scientific knowledge' (6.1), 'flexibility of business partner' (5.9), and 'short geographical distance of the university from the business partner' (5.7), which can be found at the bottom of the above graph.

Therefore it can be said that both HEI management and academics in Italy agree that 'relationship Drivers' are greater facilitators for UBC than 'business Drivers'. This reflects the people nature of cooperation.

Italian respondents see the Drivers of UBC similarly to EU respondents (see table from previous page)

Similar to the European average, also the Italian respondents perceive the relationship Drivers as the most important Drivers of UBC. However it seems that relationships matter even more in Italy, and the business Drivers seem to be less of a Driver in Italy compared to the EU average. One of the reasons for this difference can be found in the structure of the Italian economy. In fact the business sector in Italy is made up mainly of SMEs and most of these are micro enterprises (94.6%), which results in lack of access to larger SMEs and macro enterprises in the region, thereby increasing the geographical distance.

Main Drivers of UBC in Italy

1. Existence of mutual trust
2. Existence of mutual commitment
3. Having a shared goal
4. Understanding of common interest by different stakeholders
5. Prior relation with the business partner

Benefits of cooperation (academic perspective)

Benefits are the positive results that stakeholders perceive that they obtain from undertaking UBC.

The following table explains the extent of relevance of *Benefits* of UBC by academics (green) in Italy compared to the EU average. The *Benefits* have been factored into 'meta-groups' in order to provide a more strategic understanding.

Four groups of UBC *Benefits* for academics

Resulting from a factor analysis of the results, *Benefits* for academics can be categorised in the following groups:

1. *Benefits for students,*
2. *Benefits for business,*
3. *Benefits for HEIs and*
4. *Personal Benefits for academics.*

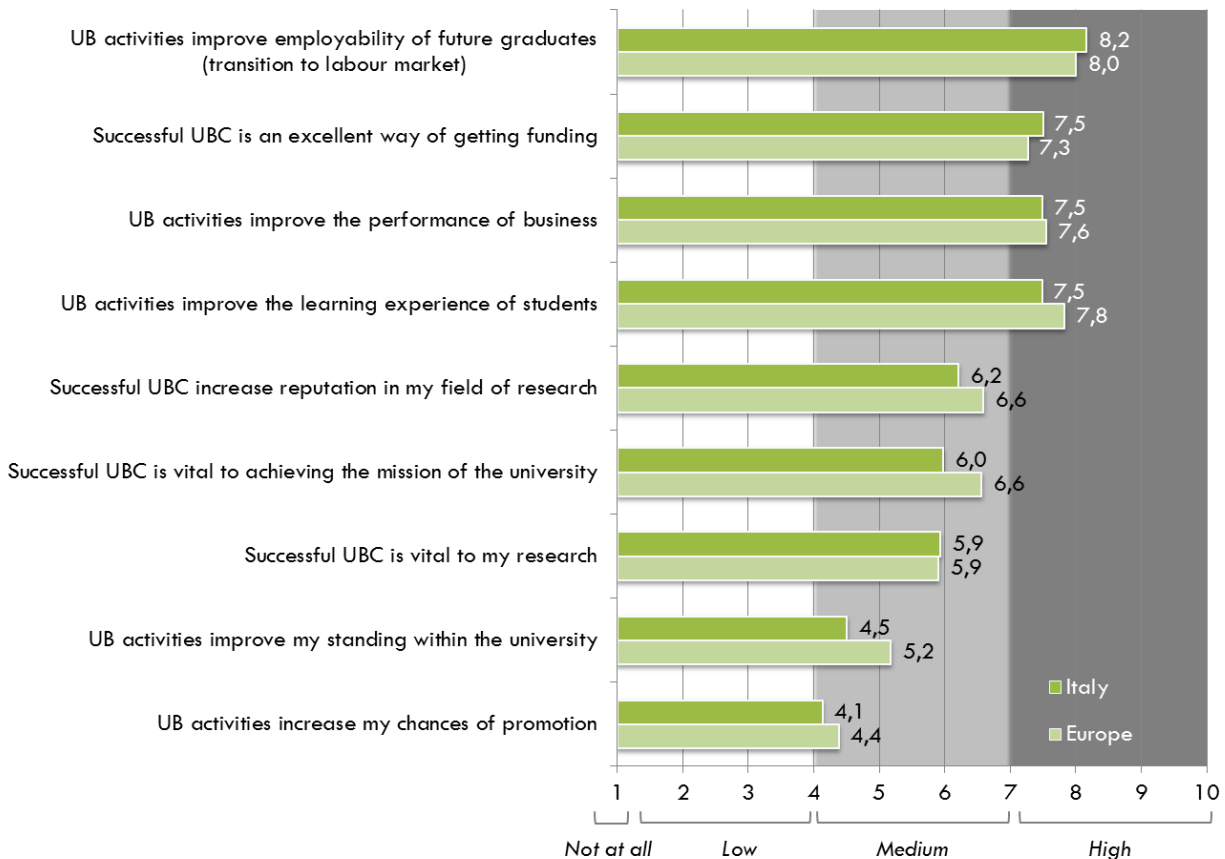
Benefits (grouped) from cooperation – Italy v Europe

As answered by academics

Benefits for students <ul style="list-style-type: none"> • UB activities improve employability of future graduates • UB activities improve the learning experience of students 	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
	ACAD	7.8	ACAD	7.9
Benefits for business <ul style="list-style-type: none"> • UB activities improve the performance of business 	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
	ACAD	7.5	ACAD	7.6
Benefits for HEIs <ul style="list-style-type: none"> • Successful UBC is vital to achieving the mission of the HEI 	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
	ACAD	6.0	ACAD	6.6
Benefits for academics <ul style="list-style-type: none"> • Successful UBC is an excellent way of getting funding • Successful UBC increases my reputation in my field of research • Successful UBC is vital to my research • UB activities improve my standing within the university • UBC activities increase my chances of promotion 	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
	ACAD	5.7	ACAD	5.9

Benefits from cooperation – Italy vs. Europe

As answered by academics



Students get the most Benefit from UBC say academics

Academics in Italy nominate that the greatest *Benefits* from UBC go to students ('UB activities improve employability of future graduates' and 'UB activities improve the learning experience of students'), followed by *Benefits* for business ('UB activities improve the performance of business') as well as the university ('successful UB cooperation is vital to achieving the mission of the university') and finally rate self-Benefit the lowest.

Italian academics perceive low self-Benefit and Benefits for the HEI from UBC activities (see graph above)

Whilst academics report that UBC is an excellent way of getting funding (7.5), they are much more negative in respect to their *Benefits* with respect to, increase in reputation (6.2), how vital it is for their research (5.9), their standing in the university (4.5) and especially their increasing chances of promotion (4.1). In addition to their self-Benefit, academics also perceive the *Benefits* for the HEI to be low, with 'successful UBC is vital to achieving the mission of the university' (6.0).

These results are in line with the grouped results (see previous page). Compared to these relatively high *Benefits* for students and business stakeholders (7.8 and 7.5), academics perceive their own and the HEI *Benefits* from UBC much lower (6.0 and 5.7).

Italian academics perceive slightly lower Benefits from UBC than in Europe (see graph above)

In comparison with the EU average, Italian academics see most *Benefits* slightly less positively. Two exceptions are the benefit 'UB activities improve employability of future graduates' (8.2 compared to 8.0) and especially 'successful UBC is an excellent way of getting funding' (7.5 compared to 7.3).

Overall, Italian academics perceive all *Benefits* from UBC to be a bit lower. Mostly due to the lack of awareness of the 'third mission' of the university by the academics. Also, academics are not evaluated based on the quality and number of UBC, but rather on the quality and number of scientific publications.

Main Benefits of UBC identified by Italian academics	
1.	UB activities improve employability of future graduates
2.	Successful UBC is an excellent way of getting funding
3.	UB activities improve the performance of business
4.	UB activities improve the learning experience of students
5.	Successful UBC increase my reputation in my field of research

Benefits of cooperation (HEI perspective)

Benefits are the positive results that stakeholders perceive that they obtain from undertaking UBC.

The following table explains the extent of relevance of perceived *Benefits* of UBC by HEI management (orange) in Italy compared to the EU average. The *Benefits* have been factored into 'meta-groups' to provide a more strategic understanding of UBC *Barriers*.

Benefits (grouped) from cooperation – Italy vs. Europe

As answered by HEI management

Benefits for the HEI	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
<ul style="list-style-type: none"> • UBC is vital to achieving the mission of the HEI. 	HEI	8.4	HEI	7.7

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
<ul style="list-style-type: none"> • UBC increases skills and graduate development 	HEI	8.4	HEI	8.5

Benefits for business and society	Extent of importance (1-10)		Extent of importance (1-10)	
	Italy		Europe	
<ul style="list-style-type: none"> • UBC has beneficial effects on the local industry • UBC improves regional productivity • UBC creates local employment • UBC increases local GDP and disposable income • UBC creates a range of beneficial social and recreational benefits 	HEI	8.2	HEI	7.3

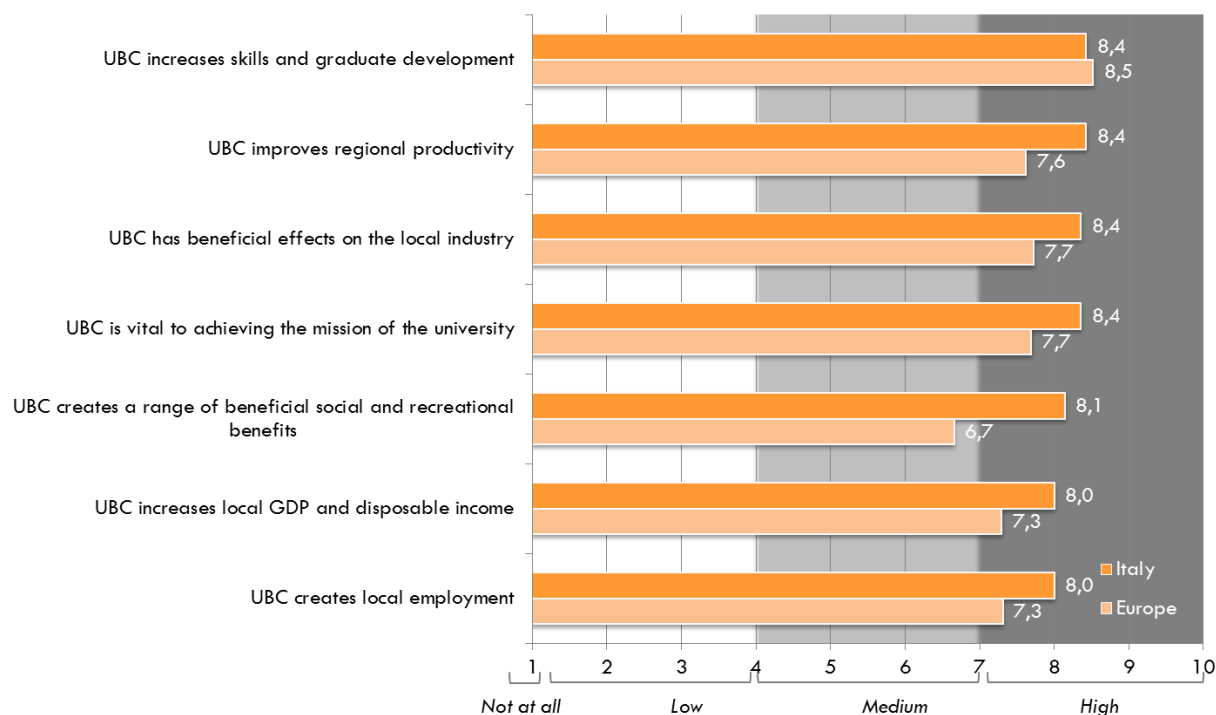
Three groups of UBC Benefits for HEIs

Resulting from a factor analysis of the results, *Benefits* for HEIs can be categorised in the following groups:

1. *Benefits for students,*
2. *Benefits for business and society, and*
3. *Benefits for HEIs.*

Benefits from cooperation – Italy v Europe

As answered by HEI management



The HEI and the students get the most Benefit from UBC say HEIs (see table previous page and graph above)

HEI management in Italy perceive all Benefits from UBC to be of a high extent, with the Benefits for 'students' ('UBC increases skills and graduates development') and 'HEIs' ('UBC is vital to achieving the mission of the HEI') to be the highest. This is followed by the Benefits for the business and society. The lowest Benefits are 'UBC increases local GDP and disposable income' (8.0) and 'UBC creates local employment' (8.0).

All Benefits are perceived higher in Italy than in Europe (see table previous page and graph above)

Comparing the results to the European average it can be stated that Italian HEI management see all Benefits higher, with the Benefits for business and society even being significantly higher than in Europe. The largest difference between Italy and the European average is on 'UBC creates a range of beneficial social and recreational Benefits' (8.1 compared to 6.7).

Furthermore, while the Benefits for the students are assessed similarly (only a 0.1 difference is found), a larger gap can be found with respect to the increase of Benefits for the HEI and Benefits for business and society. Certainly with respect to society, Italian HEI management are far more positive than the European average (8.2 compared to 7.3).

Main Benefits of UBC identified by Italian HEI management

1. UBC increases skills and graduate development
2. UBC improves regional productivity
3. UBC has beneficial effect on the local industry
4. UBC is vital to achieving the mission of the university
5. UBC creates a range of beneficial social and recreational Benefits

Benchmark

...universities in your region!

Assisting governments and universities improve University-Business Cooperation

Using the State of European University-Business Cooperation study results, decision makers, managers and practitioners involved in university-business cooperation can benefit from receiving:

1. a benchmark in terms of UBC of your organisation, institution, sector, region or country against others.
2. a clear picture of progress in efforts to increase university-business cooperation,
3. proactive areas of focus for increasing UBC,
4. the required information to advance university-business cooperation within their region or institution

Provided to your organisation in the form of a report and/or presentation, a state of the UBC report dedicated to your organisation can assist with developing greater financial and other benefits from University-Business Cooperation



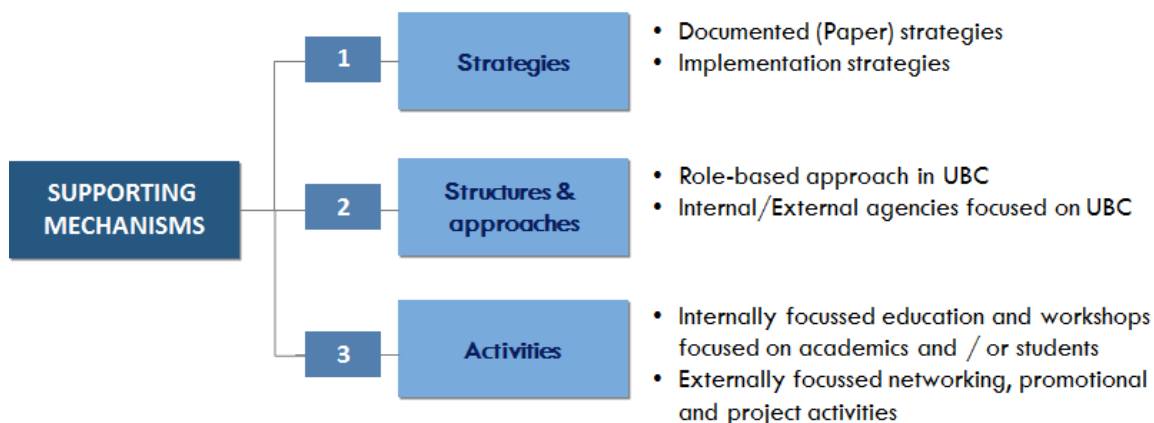
...your university!

Please contact davey@apprimo.com for more information.

Supporting mechanisms for UBC

Supporting mechanisms are interventions designed to support the development of cooperation between HEIs and business.

The coming section will outline the extent to which UBC *Supporting mechanisms* are developed in Italy. The development of these mechanisms has been found to significantly influence cooperation within the European context.



Supporting mechanisms explained

The UBC *Supporting mechanisms* constitute the 'action-level', where all stakeholders need to focus their efforts when they want to influence the extent of UBC.

The specific role and importance of supporting mechanisms at HEIs has long been recognised in both practice and literature. They are often recognised in multiple ways including (i) in a variety of different names (e.g. interventions, enablers), (ii) captured in a model (e.g. ecosystem, regional innovation system) or (iii) known as individual elements (e.g. activities, infrastructure).

A key finding of the *State of European UBC Report* was that the extent of development of the *Supporting mechanisms* was found to significantly affect the extent of general activity between HEIs and business. The nature of the *Supporting mechanisms* in terms of (i) responsibility, (ii) expense and (iii) time to impact are summarised in the table below.

	Primary responsibility for the mechanism	Secondary responsibility	Expense	Time to impact
Strategies	HEI management	All UBC stakeholders	Low	Long term
Structures and approaches	HEI / regional Govt. and agencies	Regional UBC stakeholders	Agencies: High Personnel: Med-high	Agencies: Long Personnel: Medium
Operational activities	Knowledge transfer Professionals	Regional UBC stakeholders	Medium	Short-medium term

Strategies for UBC in Italy

Strategies are the drafting and implementation of cross-functional decisions by a HEI that will enable it to achieve its long-term objectives with respect to UBC.

The primary responsibility for the creation of UBC strategies is with HEI management as a strategic instrument is usually created by decisions made at a HEI board level.

Two groups of UBC strategies

Resulting from a factor analysis of the results, *Strategies* can be categorised in the following groups:

1. *Documented strategies*
2. *Implementation and motivation strategies*

Development of UBC Strategies (grouped) – Italy vs. Europe

As answered by HEI management

Documented (Paper) strategies	Extent of development (1-10)		Extent of development (1-10)	
	Italy		Europe	
	HEI	5.9	HEI	6.8
<ul style="list-style-type: none"> • A top-level management committed to University-Business cooperation, • A documented mission / vision embracing University-Business cooperation, • A strategy for University-Business cooperation, • The internal promotion of University-Business cooperation., • The external promotion of University-Business cooperation. 				

Implementation and motivation strategies	Extent of development (1-10)		Extent of development (1-10)	
	Italy		Europe	
	HEI	5.2	HEI	5.4
<ul style="list-style-type: none"> • The dedication of resources (inc. funding) to support University-Business cooperation, • The provision of incentives for academics to encourage University-Business cooperation, • The inclusion of 'cooperation with business' as part of the assessment of work performance for academics. 				

The perception of the development of Italian UBC Strategies by academics

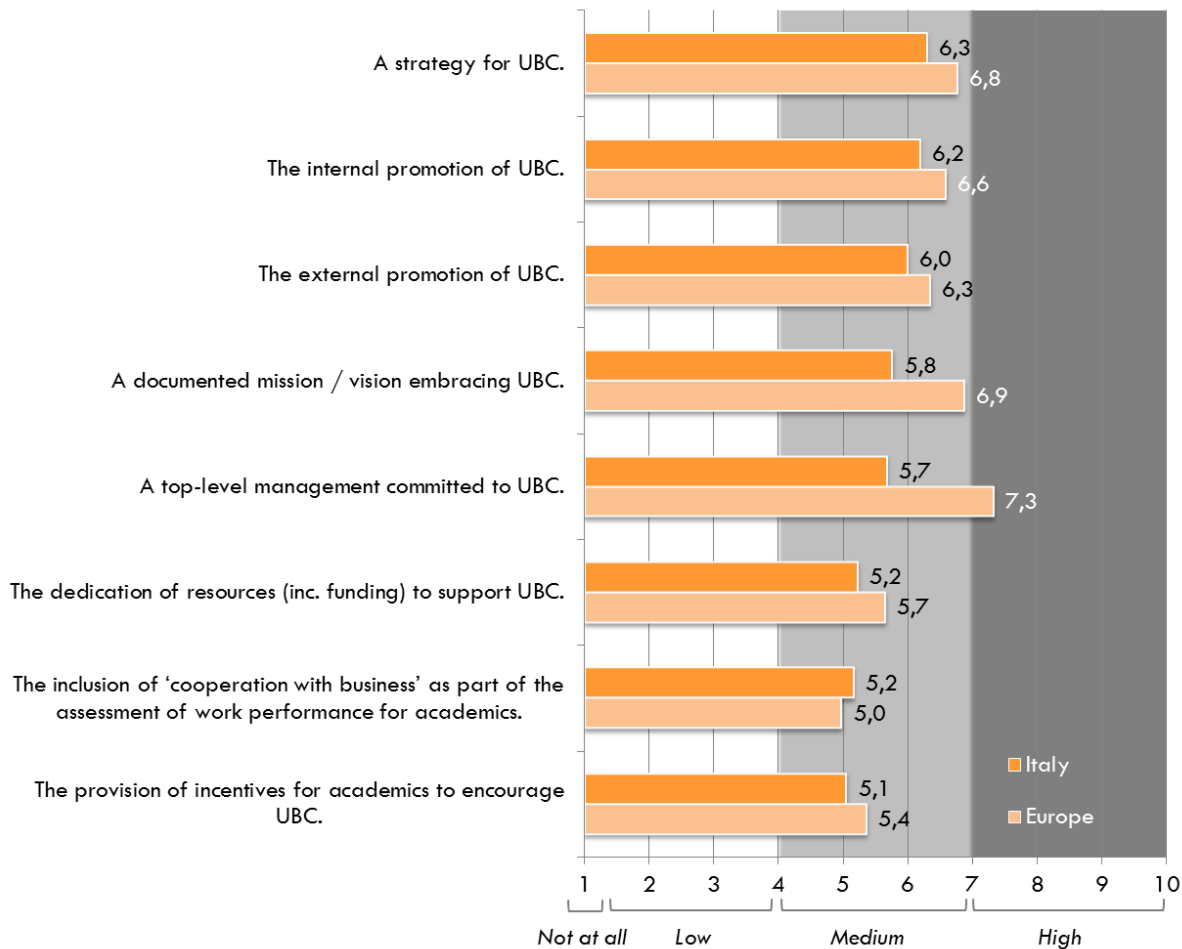
Italian academics were also asked their perceptions of the development of *Strategies* for UBC in Italian HEIs. In contrast to HEI managers, their perception is that Italian UBC Documented *Strategies* are developed at a low level (Italian academics: 4.4; HEI managers average: 5.9) and are some of the lowest developed in Europe, particularly strategies that embed UBC in the HEI (*'implementation Strategies'*, Italian academics: 3.0; HEI managers: 5.2). These differences of opinion about Italian UBC *Strategies* are the second biggest 'perception gap' in Europe behind Spain, between academics and HEI managers. This implies that Italian HEIs have a large perception

difference between the two groups about the development of UBC *Strategies* at the HEI, which highlights an area for future improvement.

Whether the HEI managers or academics are right about the level of development of UBC *Strategies*, two truths remain: (i) that there is still substantial room for development of UBC strategies within Italian HEIs, and (ii) Italian academics need to be either better informed (the message is not getting through to them) or more appropriately incentivised and supported in their UBC efforts.

Development of UBC Strategies – Italy vs. Europe

As answered by HEI management



Documented (paper) strategies are the most developed strategies in Italy (see graph above)

The most developed UBC Strategies in Italy, as reported by Italian HEI management, are 'a strategy for UBC' (6.3), 'the internal promotion of UBC' (6.2) and 'the external promotion of UBC' (6.0). On the other extreme, 'the provision of incentives for academics to encourage UBC' (5.1), 'The inclusion of cooperation with business as part of the assessment of work performance for academics' (5.2), and 'the dedication of resources, incl. funding, to support UBC' (5.2) are only developed to a lower degree.

Implementation and Motivation Strategies are similarly developed in Italy as in Europe (see graph above)

When compared to the European average, Italy shows a similar extend of implementation of UBC Strategies with most items showing only an insignificant difference in responses. The largest gap is found in the 'dedication of resources, incl. funding, to support UBC' where Italy performs slightly worse (+0.5) than the European average. On a factored (grouped) level, 'documented Strategies' are significantly lower developed in Italy when compared to Europe (5.9 compared to 6.8).

Overall the strategies are less developed in Italy when compared to the European average. These two results are typical for the Italian socio-economic behaviour characterized by the difficulty in planning medium / long term strategies and by the lack of investment of adequate resources within the HEI in activities not directly connected to research.

UBC strategies in Italy	
Moderately developed	1. A strategy for UBC
	2. The internal promotion of UBC
	3. The external promotion of UBC
	4. A documented mission / vision embracing UBC
	5. A top-level management committed to UBC
	6. The dedication of resources (incl. funding) to support UBC
	7. The inclusion of 'cooperation with business' as part of the assessment of work performance for academics
	8. The provision of incentives for academics to encourage UBC

Structures and approaches for UBC in Italy

UBC *Structures and approaches* are mechanisms created as a result of top-level strategic decisions within (or related to) a HEI. They are enablers of UBC and include the creation or development of positions or agencies put in place in order to promote, develop or implement UBC with a mid to long term focus. They can be created within the HEI or externally, as a bridge between the HEI and business. *Structures and approaches* usually involve significant investment and can be funded by the HEI, the government, business or a combination of these sources.

Two groups of UBC structures and approaches

Resulting from a factor analysis of the results, *Structures and approaches* can be categorised in the following groups:

1. *the creation and /or expansion of positions (personnel) and*
2. *agencies (units of focus).*

Development of UBC structures and approaches (grouped) – Italy vs. Europe

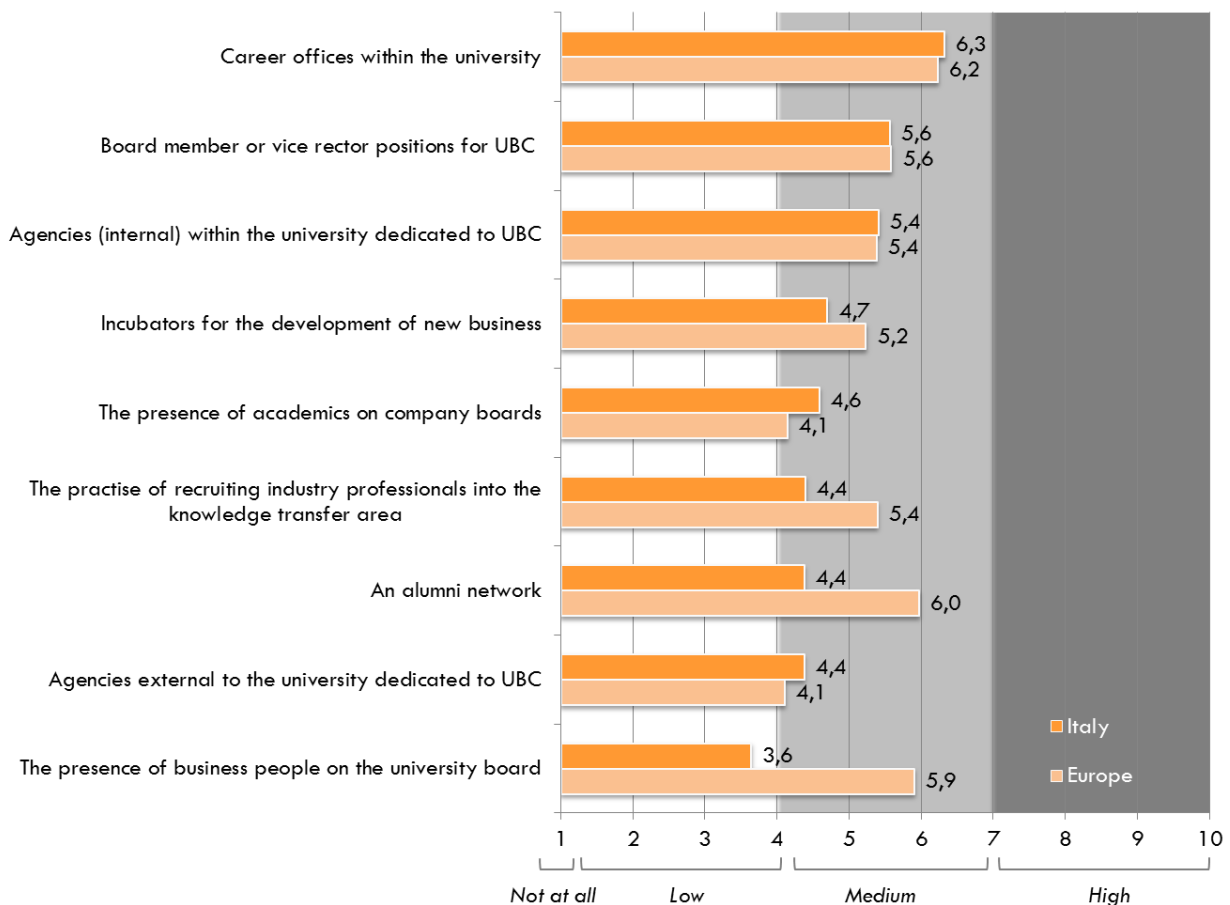
As answered by HEI management

Roles-based approaches in UBC	Extent of development (1-10)		Extent of development (1-10)	
	Italy		Europe	
	HEI	4.5	HEI	5.4
<ul style="list-style-type: none"> • The presence of academics on company boards, • The presence of business people on the HEI board, • Board member or vice rector positions for UBC. • The practise of recruiting industry professionals into the knowledge transfer area., • An alumni network. 				

Internal/External agencies focused on UBC	Extent of development (1-10)		Extent of development (1-10)	
	Italy		Europe	
	HEI	5.2	HEI	5.3
<ul style="list-style-type: none"> • Career offices within the HEI, • Agencies external to the HEI dedicated to UBC • Agencies (internal) within the HEI dedicated to UBC, • Incubators for the development of new business. 				

Development of UBC structures and approaches –Italy vs. Europe

As answered by HEI management



Internal and external agencies are the most developed in Italy (see table previous page)

The extent of development of the Structures for UBC in Italy shows that 'role-based approaches in UBC' are of a lower development than 'internal/external agencies focused on UBC' (4.5 compared to 5.2). This is supported by the result shown in the graph above where the 'internal/external agencies' is evident through the development of 'career offices within the university' (6.3) and 'agencies within the university dedicated to UBC' (5.4).

Lower development of role-based structures and approaches to Europe

While 'internal/external agencies focused on UBC' shows a similar extent of development in Italy compared to the European average (5.2 v 5.3), 'role-based approaches' are far lower developed in Italy (4.5 v 5.4). Especially for 'the presence of business people on the university board' (3.6 v 5.9), 'an alumni network' (4.4 v 6.0) and 'the practice of recruiting industry professionals into the knowledge transfer area' (4.4 v 5.4) Italy is less developed when compared to their European counterparts. The reason for this difference is in part due to the size of Italian companies. The absence of medium/large enterprises is often seen by the HEI as a lack of sufficiently

qualified/recognised managers to sit on the company board. Moreover, most alumni of the Italian HEIs are not organized in "societies" or "clubs". As most students from small and medium HEIs are from the region and the lack of organisation from the HEI to involve their alumni in a network contributes to the lacking presence of these networks.

Medium developed	<ol style="list-style-type: none"> Career offices within the university Board member or vice rector positions for UBC Agencies (internal) within the HEI dedicated to UBC Incubators for the development of new business The presence of academics on company boards The practise of recruiting industry professionals into the knowledge transfer area An alumni network Agencies external to the university dedicated to UBC
Low developed	<ol style="list-style-type: none"> The presence of business people on the HEI board

Operational activities for UBC in Italy

Operational activities are actions of a practical and immediate nature undertaken by actors within HEIs, governments, regional agencies and business to create and support UBC. *Operational activities* are usually the *Supporting mechanisms* that require the lowest financial investment and the lowest commitment and whose scope and volume can be more easily described, measured and managed.

Three groups of UBC operational activities

Resulting from a factor analysis of the results, *Operational activities* can be categorised in the following groups:

1. *Internally focused education and workshops focused on academics*
2. *Internally focused education and workshops focused on students*
3. *Externally focused networking, promotional and project activities*

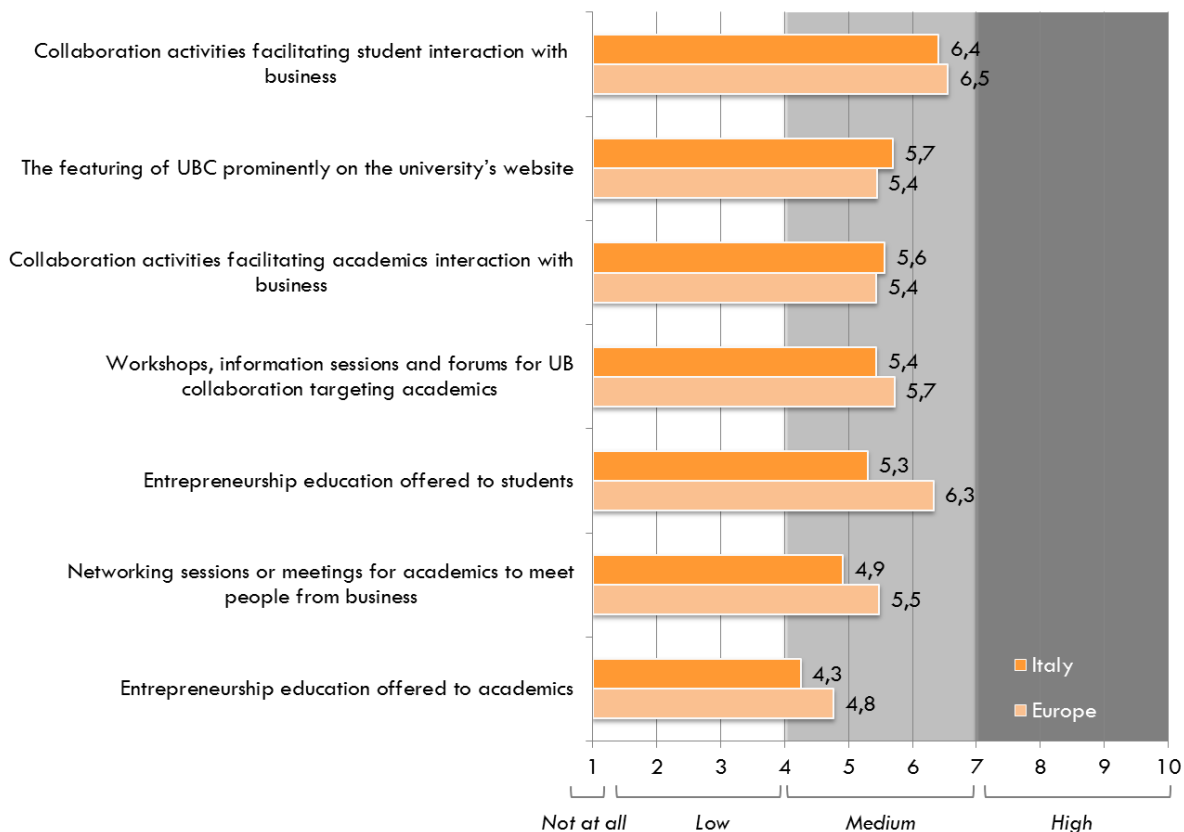
Development of UBC operational activities (grouped) – Italy vs. Europe

As answered by HEI management

Internally focused education and workshops focused on <u>academics</u>	Extent of development (1-10)	Extent of development (1-10)
<ul style="list-style-type: none"> • Workshops, information sessions and forums for University-Business collaboration targeting academics, • Entrepreneurship education offered to academics. 	Italy	Europe
	HEI	HEI
	4.9	5.3
Internally focused education and workshops focused on <u>students</u>	Extent of development (1-10)	Extent of development (1-10)
<ul style="list-style-type: none"> • Entrepreneurship education offered to students. 	Italy	Europe
	HEI	HEI
	5.3	6.3
Externally focused networking, promotional and project activities	Extent of development (1-10)	Extent of development (1-10)
<ul style="list-style-type: none"> • Networking sessions or meetings for academics to meet people from business, • The featuring of University-Business cooperation prominently on the HEI's website, • Collaboration activities facilitating student interaction with business, • Collaboration activities facilitating academics interaction with business. 	Italy	Europe
	HEI	HEI
	5.7	5.7

Development of UBC operational activities – Italy v Europe

As answered by HEI management



Networking and promotional activities are the focus of UBC activities in Italy (see graph this page)

Regarding 'externally focussed networking, promotional and project activities' Italy is on a similar level as the European average (both 5.7). While both the 'internally focussed education and workshops for students' (5.3 v 6.3) and 'the internally focussed education and workshops for academics' (4.9 v 5.3) score far lower in Italy when compared to the European average. 'Entrepreneurship education offered to academics' scored the lowest of all activities (4.3 v 4.8).

UBC activities score lower in Italy compared to Europe (see table previous page)

On a factored (grouped) level, it can be summarised that Italy is slightly less developed than the European average with respect to all categories except for 'externally focused networking, promotional and project activities' (5.7 v 5.7). The largest differences are found at 'entrepreneurship education offered to students' (5.3 v 6.3) and 'networking sessions or meetings for academics to meeting people from business' (4.9 v 5.5). The lack of medium/large enterprises has a direct influence on the lack of strong relationship between academics and business people. HEIs and business are often seen as two separate worlds. National regulators are trying to enhance the relationship between both parties (e.g. through a

national law in 1999). In addition also several Italian regions started to develop regional laws in order to stimulate and facilitate the relationship between HEIs and business. Regarding the entrepreneurial attitude, several laws aimed at reorganizing the university courses did not incorporate the stimulation of entrepreneurial attitudes amongst students, hence creating a lack of entrepreneurship courses. According the Eurydice network report there is no specific national strategy for entrepreneurship education except for technical and vocational education

Moderately developed	<ol style="list-style-type: none"> 1. Collaboration activities facilitating student interaction with business 2. The featuring of UBC prominently on the university's website 3. Collaboration activities facilitating academic interaction with business 4. Workshops, information sessions and forums for UBC targeting academics 5. Entrepreneurship education offered to students 6. Networking sessions or meetings for academics to meet people from business 7. Entrepreneurship education offered to academics
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The UBC Ecosystem

The UBC ecosystem is a model for understanding the important elements affecting University-Business Cooperation (UBC)

Model created by

Todd Davey, Victoria Galan Muros and Arno Meerman

Model validation partners

Science-to-Business Marketing Research Centre, UIIN, aprimo UG

Co-created by

105 practitioners validating the model in their work.

The model relationships have been scientifically validated by the Science-to-Business Marketing Research Centre

1 Indirect outcome (society)

2 Direct outcome (actors)

3 University-Business Cooperation (UBC) types

4 Influencing factors

5 Supporting mechanisms

6 Key stakeholders

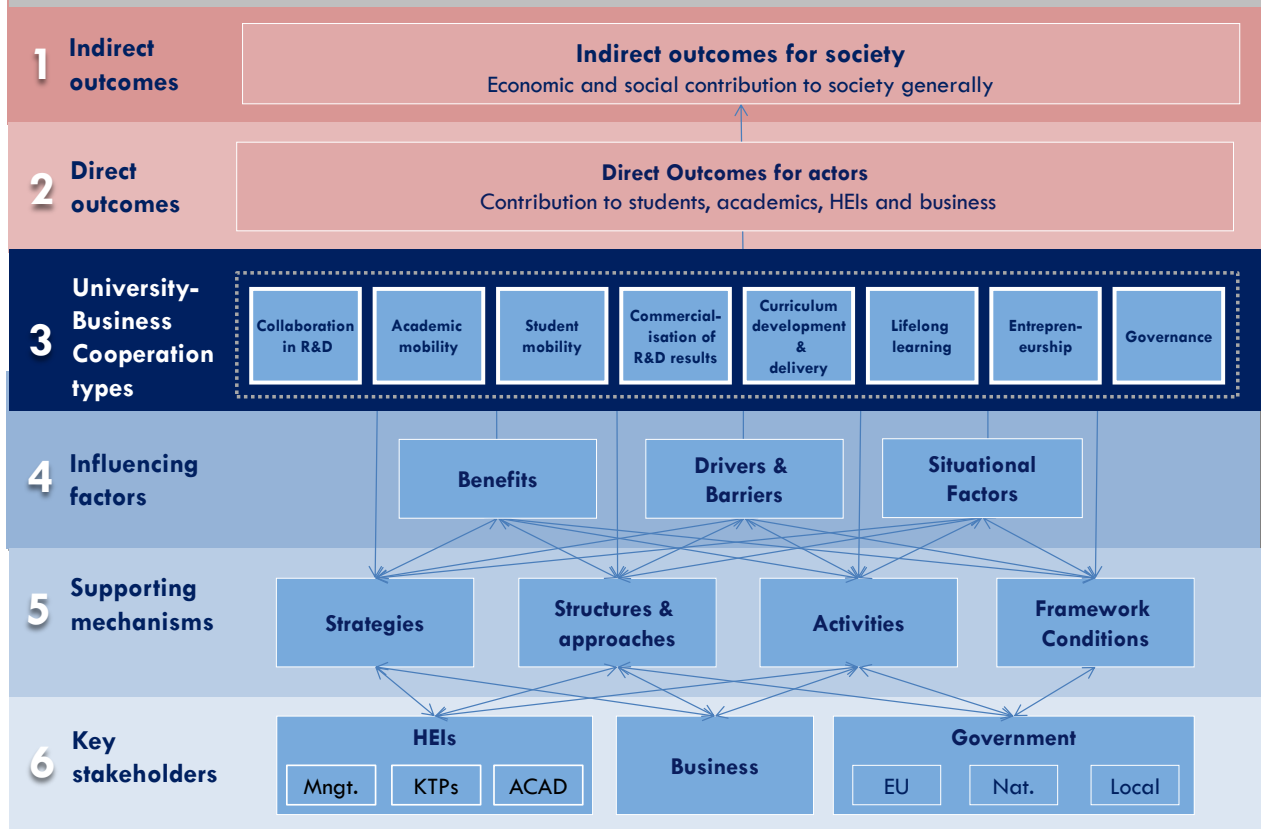
Are you...

- ...attempting to develop UBC within your organisation?
- ...repetitively thinking about the factors affecting cooperation between university and business as well as their how they relate to each other?
- ...trying to foster open innovation involving universities?
- ...continually confronted with the challenge of creating better relationships between HEIs and business?
- ...a revolutionary trying to match researchers with business partners?
-

... if you answered 'yes' to any of these questions, you are not alone: this model was developed by people like you for these reasons



UBC ECOSYSTEM MODEL > Detailed



6 Ecosystem Elements (and their key findings)

1. UBC is vital in creating a knowledge society
2. UBC provides direct outcomes for students, HEIs, academics and businesses
3. Those UBC types with more direct, measurable, and promotable *Benefits* are the most developed (e.g. *Collaboration in R&D*, *Mobility of students*)
- 4a. Situational factors (e.g. age, faculty) help to explain UBC but there is little that can be implemented from these results
- 4b. Lack of funding and excess of bureaucracy at all levels (HEI, national, European) are the highest *Barriers* to UBC
- 4c. Personal relationships drive UBC. It's a people game!
- 4d. Perceptions of high personal *Benefits* & Incentives are motivators of UBC
5. The creation and development of *Supporting mechanisms* (especially those with the highest impact) are critical for UBC
6. In the UBC ecosystem, the multiple actors need to work cooperatively and in a coordinated manner

UBC ECOSYSTEM Layers explained		All aspects are measurable (benchmarking)
1	Indirect Impact	Impact level How it impacts society
2	Direct outcomes	Outcome level How it affects stakeholders
3	University-Business Cooperation types	Result level What occurs
4	Influencing factors	Factor level What you have to consider
5	Supporting mechanisms	Action level What you can do
6	Key stakeholders	Stakeholder level

Please go to <http://ub-cooperation.eu/pdf/UBCECO.pdf> for more information or contact davey@apprimo.com.

References

- Bozeman, B., Boardman, C. (2013). Academic Faculty in University Research Centers: Neither Capitalism's Slaves nor Teaching Fugitives. *The Journal of Higher Education*, 84(1), 88-120.
- Carayol, N. (2003), Objectives, Agreements and Matching in Science–Industry Collaborations: Reassembling the Pieces of the Puzzle. *Research Policy*, 32(6), 887-908.
- Davey, T., Baaken, T., Galán-Muros, V., Meerman, A. (2011). Study on the cooperation between Higher Education Institutions and Public and Private Organisations in Europe. European Commission, DG Education and Culture, Brussels, Belgium, ISBN 978-92-79-23167-4.
- Etzkowitz, H., Leydesdorff, L. (2000). The dynamics of innovation: From National Systems and “Mode 2” to a Triple Helix of university-industry-government relations. *Research Policy*, 29(2), 109–123
- European Commission (2011). Council conclusions on the role of education and training in the implementation of the ‘Europe 2020 strategy. Official Journal of the European Union (2011/C 70/01)
- European Commission (2012a). Entrepreneurship Education at School in Europe – National Strategies, Curricula and Learning Outcomes'. Accessed from <http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/135EN.pdf>, [17 December 2013].
- European Commission (2012b). 'Enterprise and Industry – SBA Fact Sheet 2012 Italy'. Accessed from <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/countries-sheets/2012/italy_it.pdf>, [17 December 2013].
- OECD, Organisation for Economic Cooperation and Development (2002). Benchmarking science-industry relationships. Accessed from <http://ep2010.salzburgresearch.at/knowledge_base/oecd_2002.pdf>, [25 August 2013].

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