The State of University-Business Cooperation in Finland

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

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supported by the European Commission

apprimo innovation and market cultivation

Science Marketing_ Science-to-Business Marketing Research Centre

Business Arena

UIIN University Industry Innovation Network

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

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Executive summary

Finland have a Europe-leading environment and approach to university-business cooperation

The results of this study reflect what is oft recognised in literature as well as anecdotally by practitioners: in Finland there is a high respect for education and research by all stakeholders, including business. This is reflected in the common understanding that university-business cooperation (UBC) contributes to their society, the provision of a positive environment for UBC and the high level of support for UBC, resulting in a high development of UBC. Crucially, both academics and higher education institutions (HEIs) management view UBC in the same way. Amongst Finnish academics and HEIs, there is a high recognition that UBC provides *benefits* for all stakeholders including students, business, academics, business and society, confirmed by anecdotal statements of the Finnish dedication to inclusive and lifelong learning. This is despite only a more recent focus by HEIs on research commercialisation through the creation of the Finnish Inventions Act in 2007, which gave HEIs the right to invention ownership. That said, the results of this study highlight a number of areas where development and improvement could still occur.

About the study

The results presented in this report were from a study commissioned by the European Commission. 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 the Finland (forming the basis for this report), 115 responses from academics (64) and HEI management (51) were received. The study measured the perceptions of these two groups in respect to their own cooperation efforts and those of their HEI respectively.

Collaboration in R&D is the most developed forms of UBC

The most developed types on UBC in Finland are: (1) 'Collaboration in research and development' (R&D), (2) 'Mobility of students', and (3) 'Lifelong learning' (LLL) with the least developed type being (8) 'Governance'. Whilst nearly all types of cooperation are more developed in Finnish HEIs compared to the average European HEI (except 'Governance'), the high development of LLL reflects the commitment of Finnish companies to continual learning. The only exception, governance, could be a strategic way of increasing UBC in Finland as it tends to have a multiplier effect whereby having business people involved with HEI management (and vice versa) has been found to have a substantial flow-on effect on the amount of UBC, particularly 'Cooperation in curriculum development and delivery'.

Finland has a positive environment for UBC

With UBC *drivers* (6.9 & 6.8) being assessed higher than UBC *barriers* (5.9 & 5.8) by both HEI management and academics respectively, Finland has one of the most positive environments for UBC in Europe. Despite this situation, *relational barriers* about the differences in culture between HEIs and business still exist, and are named the highest *barriers*. The three highest *barriers* are: 'differing time horizons between university and business' (7.1), 'the limited absorption capacity of SMEs to take on internships or projects' (7.0), and 'business lack awareness of university research activities/offerings' (6.9).

Like in Europe, relationships also drive UBC in Finland, with *relationships drivers* being assessed as more important that business *drivers* by both HEIs' representatives and academics. The top *drivers* of UBC in Finland are 'existence of mutual trust' (7.8), 'short geographical distance of the university from the business partner' (7.6) and 'prior relation with the business partner' (7.4).

Academics and HEI perceive high benefits for all from UBC

Whilst Finnish academics perceive themselves to receive the least *benefits* from UBC of all stakeholders, they still perceive a high degree of personal *benefits*, the 2nd highest in Europe. Academics perceived the primary beneficiaries from UBC to be: (i) students, (ii) businesses (iii) the HEI and (iv) themselves. Despite this, academics stated that the ability of UBC to contribute to their chances of promotion is only at a medium level, indicating that there is still room for improvement in this area. In contrast to most European countries, HEIs' representatives state that HEIs receive the highest *benefit* (equal with students) from UBC followed by business and society, showing the recognition of UBC as a beneficial activity.

Supporting mechanisms for UBC are well developed in Finland

UBC *strategies* including both *documented strategies* and *implementation and motivation strategies* are highly developed in Finland. Despite being above the

European average, there is still some room for improvement through the provision of incentives to academics for UBC, particularly including UBC in the assessment of academics work performance. With a development in *structures and approaches* above the European average, Finland shows a high financial commitment and long-term perspective for UBC. *Role-based approaches in UBC* are especially well developed in Finland. Contrary, another area for improvement is revealed in *operational activities,* which Finnish HEIs' representatives report that are less developed than the European average.

Introduction

Background

With the creation of the Europe 2020, the European Union's (EU) growth strategy for this decade, and the higher education modernisation agenda, Europe is embracing the need to create a more connected and functional relationship between government, business and HEIs in order to increase employment, productivity and social cohesion[1]. If fostering UBC is understood as interactions between HEIs and business for mutual *benefit*, then fostering UBC and extracting its value can help society face a number of issues. These issues include: the problem of decreasing public funds for HEIs[2], businesses difficulty to gain and maintain their competitive advantage in today's dynamic international markets, lack of contribution to the economic development on regional and national level[3], as well as difficulty to meet the demands of the labour market, to provide more relevant knowledge and skills and greater job prospects of students[4]. Additionally, there are substantial indirect outcomes of UBC, including support in the creation of a knowledge economy[5], support for local business[6], creation of jobs[7], stimulation of economic growth and increased living standards whilst reducing hindrances to good living[8]. In this context, UBC creates benefit for all parties involved, and wider, to 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 exchange[9]. In recent years, the focus has been extended to recognise more ways in which HEIs can contribute to society including LLL, entrepreneurship or exchanges of workers with business. Owing to this, as the *benefits* of closer and better UBC have been increasingly recognised, the holistic extraction of value via UBC has become more important for the viability and relevance of HEIs.

[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*

UBC in Finland

Finland has an extensive geographical network of scientific HEIs built after the war and universities of applied sciences along with their own regional units, which were reworked and built in 1990s. Behind this is a national regional development policy that has existed since WWII to balance the national development. Many of the scientific universities have also regional centres/units in peripheral regions. However, in respect to universities of applied sciences, many of them are owned by the municipalities themselves. Because of this they also carry a strong regional mandate and development role.

The new *University Inventions Act* pertaining the Finnish HEIs came into operation 1st of January 2007[10]. The Act provided HEIs with the rights to the inventions made in externally funded research. Before 2007 the rights to all inventions belonged to the academic inventors. For the first time this new act forced HEIs to think about research commercialisation and to provide resources and support to it within the HEIs, showing how a focus on research commercialisation is a relatively recent phenomenon in Finland.

In respect to universities of applied sciences, a new financing model, which emphasises UBC elements and reduces finance from the state, is forcing them to integrate teaching and UBC[11].

Despite the positive results in the report for Finnish UBC, there is still some room for improvement. The fact is that UBC is not already fully integrated into teaching or research, but often a separate activity operated still by the administration rather than by university faculty. While in traditional universities, their management still view that UBC activities take away resources from 'the primary role of universities'[12], in universities of applied sciences it is their *raison d'être* as they exist to serve the regional needs. Like most European nations, Finnish universities lack proper measurements and indicators for showing UBC impact and while UBC has more direct impact on the funding of universities of applied sciences, it is still not well represented in the amounts of funding traditional universities receive from governments.

Few HEIs define in their strategies the objectives and content of their societal cooperation and impact or how they are linked with university's focus areas. Even

[10] Laki oikeudesta korkeakouluissa tehtäviin keksintöihin, 2006
[11] Ministry of Education Finland, 2013
[12] BA interviews in several Finnish HEIs"

fewer describe how this is done in practice or how it is measured. In a national survey, 80% of respondents from Finnish universities of applied sciences said that the focus should be on better defining: (i) the subject of universities' cooperation with society well enough, (ii) the financing models of regional development and UBC (iii) the UBC measurement[13]. Universities of applied sciences haven't been pushing the issue of integration until very recently with the new financing model and diminishing resources. Researchers in scientific universities on the other hand fail to involve businesses in their research and have trouble speaking the same language as business. Contrary, technical universities in Finland have a long tradition of cooperation with business.

There is a need for HEIs to produce UBC success stories. Partially this is because UBC active researchers can be often subject to criticism by their peers. Lack of peer support and successful stories is common problem in Finnish universities.

HEIs in Finland cooperate to a high extent with large companies and public organisations, but often lack tradition of cooperating with SMEs, in which Finnish economy and growth relies on. There is not an established shared culture, mechanisms or tools of HEI-SME cooperation and sometimes a lack of awareness of each other needs and offerings[14]. HEIs do not often market or organize their services effectively, and joint Finnish culture and style of business is straightforward and because of this, trust is not such an issue as in other countries. Problems arise from the simple fact that there is not continuous activity or personal interaction between HEIs and business.

Types of UBC

In respect to the types of cooperation, there is a tradition of 'cooperation in R&D', in particular with big businesses in technical fields, though with other fields and SMEs it is not as developed.

In respect to the 'mobility of students', especially in scientific universities, Finnish study curriculums are very open in most fields, with students often working full-time during studies. Until 2005, students in traditional universities could effectively continue as students as long as they wanted (in most fields of study). Furthermore, there are no annual student fees to pay. All this may contribute to the fact that student mobility is quite high and why Finnish students graduate quite late in their lives having already spent time in business when they graduate. Universities of applied sciences and some fields like medicine and pedagogy have a more school-like approach and tight course schedules.

Finland has been experiencing recently an increase in start-ups particularly in media and 'entrepreneurship' has become the flagship goal for many universities of applied sciences. In particular: how to create more student-based businesses. 'Governance' is rarely offered anywhere actively, due to the fact that. Although SMEs are required by law to have boards, they do not operate like in large organisations; Boards in SMEs have traditionally been informal, with few outside participants and only very recently used in a strategic way.

UBC incentives and benefits

Like in most European countries, in Finland generally there is some room for development of individual UBC incentives and *benefits* for academics. It is often up to individual researchers and teachers to decide how much they wish to incorporate viewpoints of businesses in their teaching or research activity. Staff members are given a great degree of independence in respect to curriculum planning and research work. Like most European countries and HEIs, UBC is not reflected in the assessment of the work performance of Finnish academics. In scientific universities there are no immediate personal incentives for researchers to be involved in UBC. If a researcher decides to commercialize their research, they have to do it on their own time and own risk. Like in their other European counterparts, UBC still depends on active staff members, who have personal interest or enthusiasm to do more than is required. Furthermore, teachers often fail to see how they could integrate UBC into their teaching and courses as it is not rewarded and therefore seen as extra effort.

Operational activities to boost UBC in Finnish universities are often not sufficiently resourced with much of the activation and promotion work being funded from temporary sources, such as EU projects.

[13] Finnish Higher Education Evaluation Council, 2013
[14] PKYrittäjien ja ammattikorkeakoulujen yhteistyö ja alueellinen vaikuttavuus, 2013

Objective

The objective of this report is to evaluate the current status of UBC in Finland 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 European Commission (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 HEIs' representatives 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. HEIs 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	
2	HEIs	HEI management and university professionals working with industry	

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).

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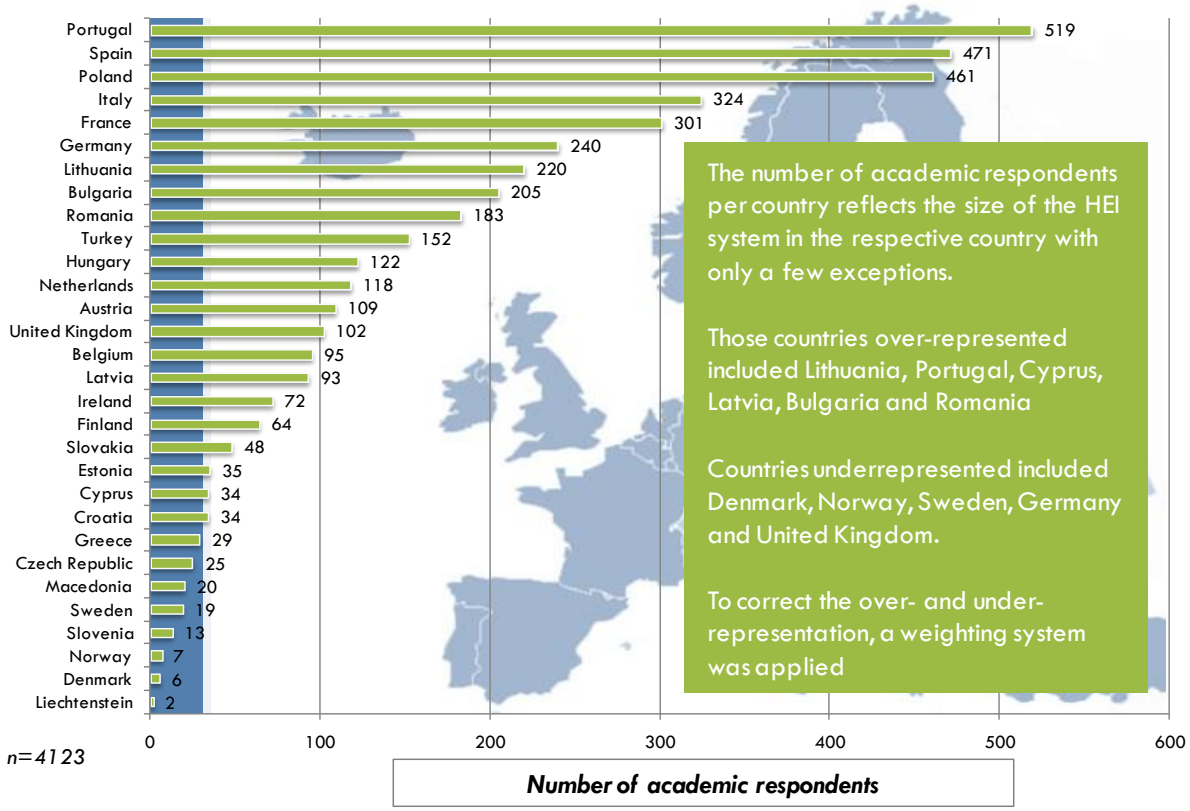
Respondents (academic)

Country



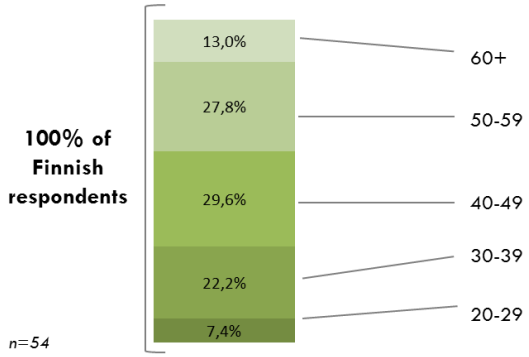
The number of academic respondents per country reflects the size of the HEI system in the respective country with only a few exceptions.

Those countries over-represented included Lithuania, Portugal, Cyprus, Latvia, Bulgaria and Romania

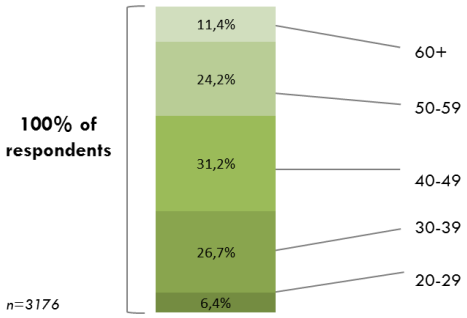
Countries underrepresented included Denmark, Norway, Sweden, Germany and United Kingdom.

To correct the over- and under-representation, a weighting system was applied

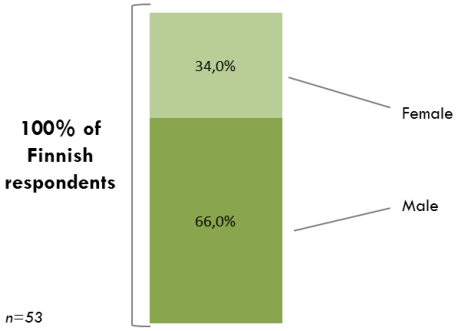
Age of respondents in Finland



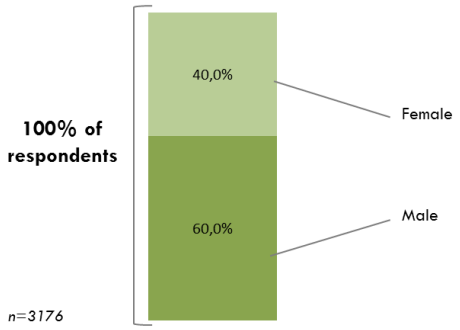
Age of respondents in Europe



Gender of respondents in Finland

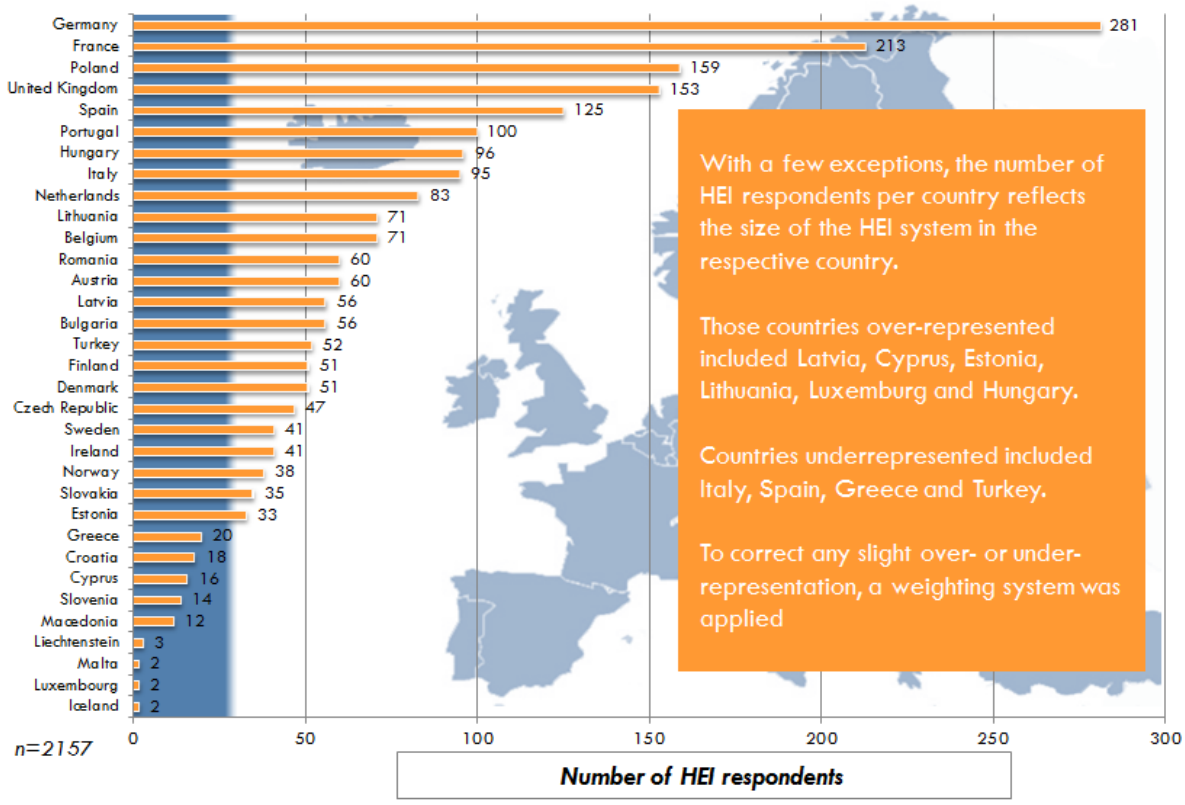


Gender of respondents in Europe

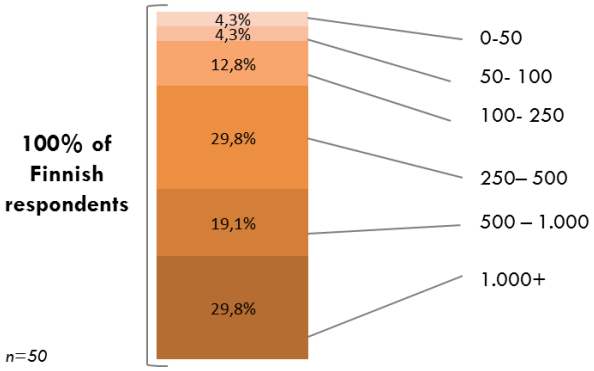


Respondents (HEIs)

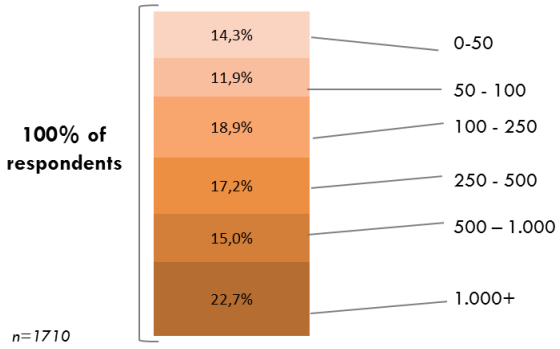
Country



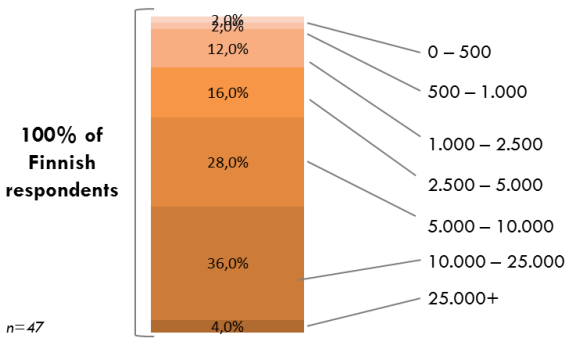
Size of HEI (no. of academics) in Finland



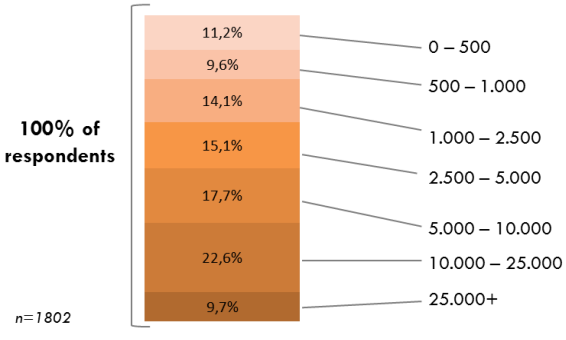
Size of HEI (no. of academics) in Europe



Size of HEI (no. of students) in Finland



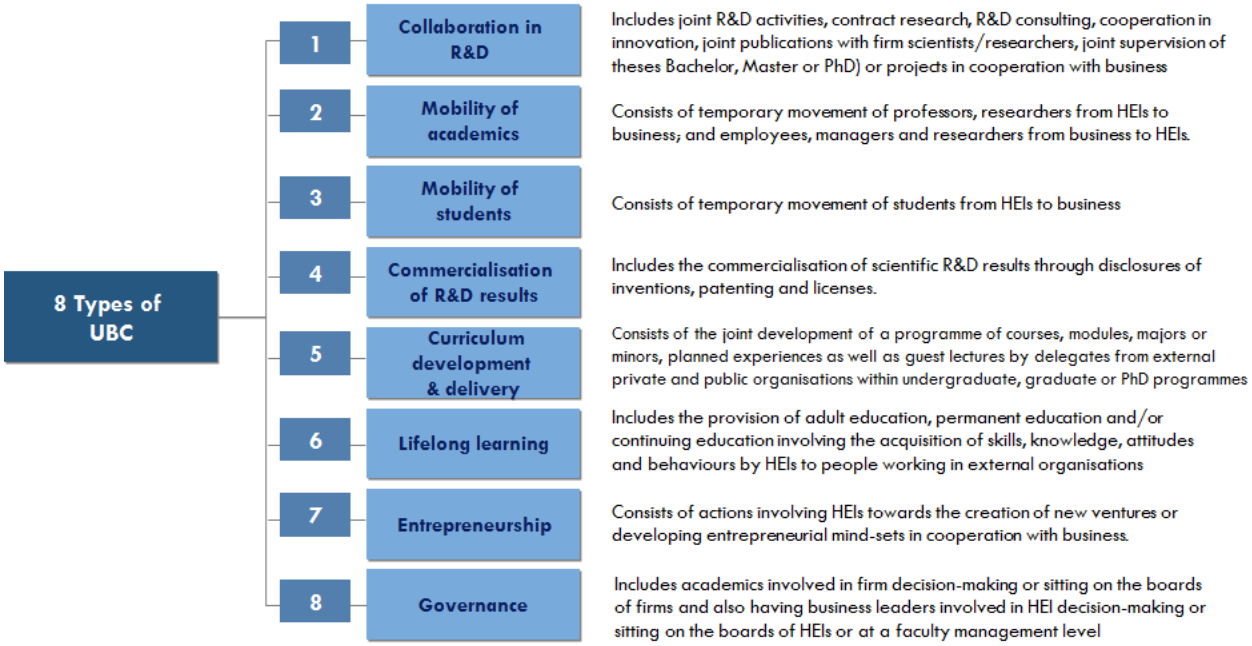
Size of HEI (no. of students) in Europe



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:

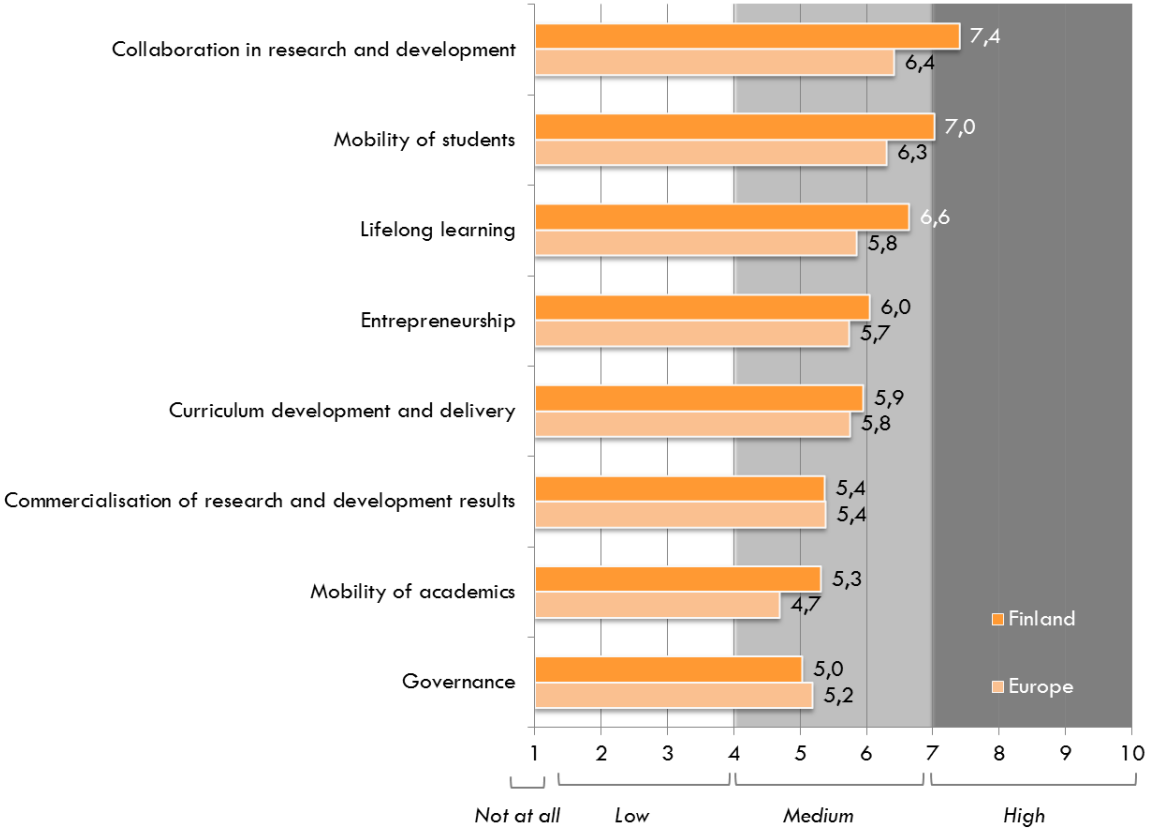
1. the 'innovators' undertaking a higher level for all types of UBC,
2. the 'majority' undertaking a medium level for all types of UBC,
3. the 'laggards' executing generally a low level (or not at all) for all types of UBC.

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 UBC in Finland

As answered by HEIs' representatives



Extent of cooperation in Finland

There is a high degree of diversity in the development of the different types of UBC in Finland, with 'Collaboration in R&D' (7.4), 'Mobility of students' (7.0) and 'Lifelong learning' (6.6) being the most developed ones.

Benchmarking Finland

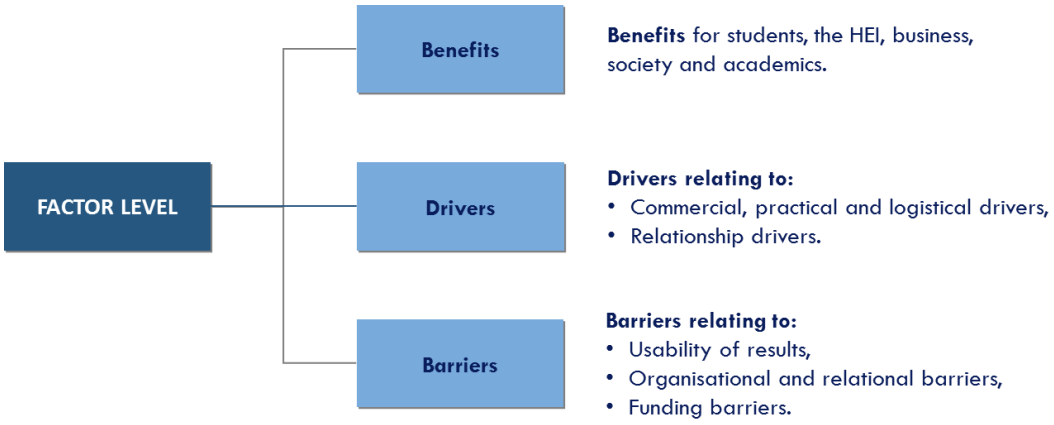
Finnish HEIs' representatives report a higher extent of development in most cooperation types than the European average. Only in respect to 'Governance' are Finnish HEIs below the average, with 'Commercialisation of R&D results' developed at the same level as the European average.

In comparison with the European average, the results for Finland are as follows:

	Finland	Europe
Highly developed	1. Collaboration in R&D 2. Mobility of Students	
Moderately developed	3. Lifelong Learning 4. Entrepreneurship 5. Curriculum Development and Delivery 6. Commercialisation of R&D results 7. Mobility of Academics 8. Governance	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 Finland. These factors have been found to significantly influence UBC 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 cooperate 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

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 Finland compared to the EU average. The barriers have been factored into 'meta-groups' to provide a more strategic understanding.

Three groups of UBC *barriers*

Resulting from an analysis of the results, *barriers* can be categorised in the following groups:

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

Barriers (grouped) to cooperation – Finland vs. Europe

As answered by academics and HEIs' representatives

Usability of results	Extent of relevance (1-10)		Extent of relevance (1-10)	
• 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.	Finland		Europe	
	ACAD	5.7	ACAD	6.1
	HEI	5.3	HEI	6.0

Funding barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
• 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.	Finland		Europe	
	ACAD	6.1	ACAD	6.5
	HEI	6.0	HEI	6.8

Relational barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
• 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.	Finland		Europe	
	ACAD	5.9	ACAD	6.4
	HEI	6.2	HEI	6.2

Main *barriers* to cooperation – Finland vs. Europe

As answered by HEIs' representatives

The most prominent *barriers* named by Finnish HEIs are 'differing time horizons between university and business' (7.1) , 'limited absorption capacity of SMEs to take on internships or projects' (7.0) and 'business lack of awareness of university research activities / offerings' (6.9). At the other extreme, Finnish HEIs representatives report that 'difficulty in finding appropriate collaboration partners' (5.3), 'the focus on producing practical results by business' (5.3) and 'business fear that their knowledge will be disclosed' (4.9) are far less hindering issues.

On a factored level (see previous page), Finnish academics and HEIs' representatives generally consider their *barriers* as lower than the European average, with the exception of the HEI representatives' perception of 'relational *barriers*', which are on the same level as in Europe.

Considering individual *barriers*, Finnish HEIs representatives perceive their *funding barriers* as much lower, no matter if they come from business, the HEI or external organisations. In addition, the financial crisis is perceived to have a far smaller effect on Finland than on Europe in general.

Another element which is significantly lower rated in Finland than the European average is 'business fear that their knowledge will be disclosed' (4.9).

Main *barriers* to UBC in Finland

1. Differing time horizons between university and business
2. The limited absorption capacity of SMEs to take on internships or projects
3. Business lack awareness of university research activities/offerings
4. Lack of financial resources of the business
5. Lack of university funding for UBC

Drivers stimulating UBC

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 Finland 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 an analysis of the results, *drivers* can be categorised in the following groups:

1. relationship *drivers* and
2. business *drivers*.

Drivers (grouped) of cooperation – Finland vs. Europe

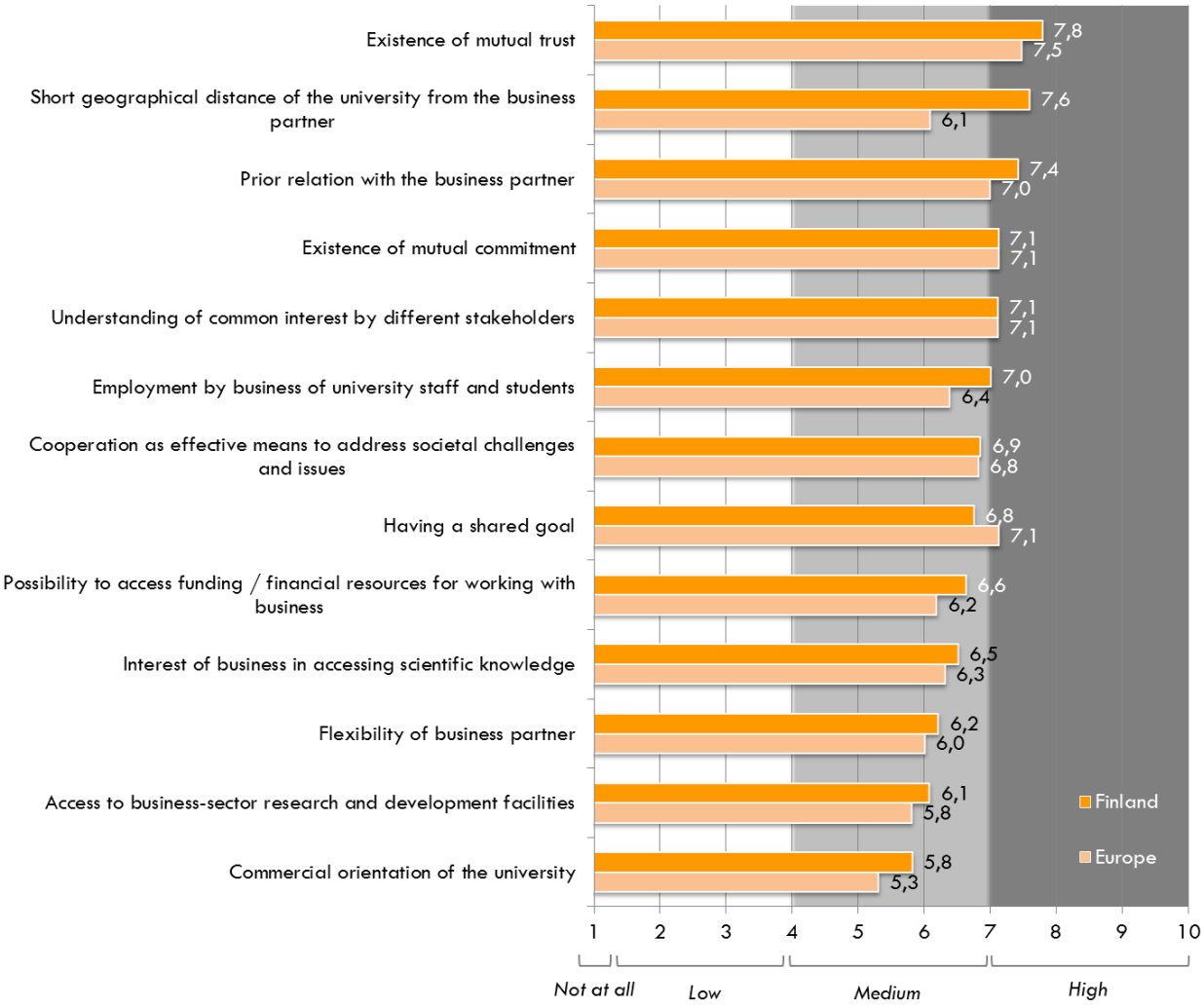
As answered by academics and HEIs' representatives

Relationship drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Finland		Europe	
• 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.	ACAD	7.0	ACAD	6.7
	HEI	7.2	HEI	7.0

Business drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Finland		Europe	
• 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.	ACAD	6.4	ACAD	5.6
	HEI	6.6	HEI	6.7

Main *drivers* of cooperation – Finland vs. Europe

As answered by HEIs' representatives



The HEI representatives in Finland perceive the highest *drivers* of UBC to be *relationship drivers* such as: 'existence of mutual trust' (7.8), 'prior relation with the business partner' (7.4), 'existence of mutual commitment' (7.1) and 'understanding of common interest by different stakeholders' (7.1). Interestingly, however, 'short geographical distance of the university from the business partner' (7.6) is the second highest ranked *driver* which is also notably higher than the European average.

Finnish HEI representatives consider the importance of most *drivers* (10) higher than the European average. Only one *driver*, namely 'having a shared goal' (6.8), is perceived lower than on European average.

Comparing the responses of Finnish HEIs representatives with those on a European level it can be seen that 'relationship *drivers*' are considered as slightly more important in Finland (+0.2 / +0.3). In respect to 'business *drivers*', it can be stated that Finnish academics and HEIs' representatives have a similar opinion (6.4 vs. 6.6). Comparing the Finnish results with the European data it can be derived that Finnish academics consider 'business *drivers*' as far more important than their European counterparts, whereas the results of Finnish HEIs' representatives almost match the European average.

Main *drivers* of UBC in Finland
1. Existence of mutual trust
2. Short geographical distance of the university from the business partner
3. Prior relation with the business partner
4. Existence of mutual commitment
5. Understanding of common interest by different stakeholders

Benefits of cooperation (academics 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 Finland compared to the EU average. The benefits have been factored into 'meta-groups' to provide a more strategic understanding of UBC *benefits*.

Four groups of UBC *benefits* for academics

Resulting from an 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 – Finland vs. Europe

As answered by academics

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
• UB activities improve employability of future graduates • UB activities improve the learning experience of students	Finland		Europe	
	ACAD	8.5	ACAD	7.9

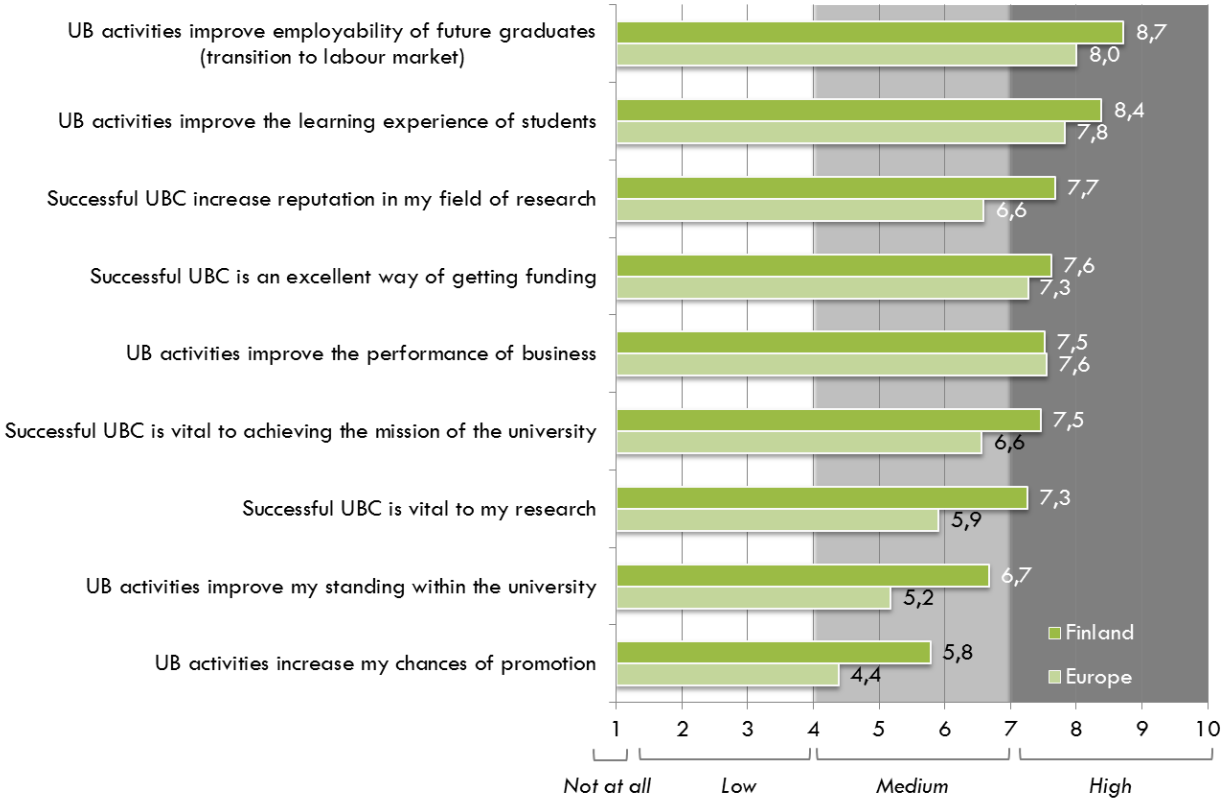
Benefits for business	Extent of importance (1-10)		Extent of importance (1-10)	
• UB activities improve the performance of business	Finland		Europe	
	ACAD	7.5	ACAD	7.6

Benefits for HEIs	Extent of importance (1-10)		Extent of importance (1-10)	
• Successful UBC is vital to achieving the mission of the HEI	Finland		Europe	
	ACAD	7.5	ACAD	6.6

Benefits for academics	Extent of importance (1-10)		Extent of importance (1-10)	
• 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	Finland		Europe	
	ACAD	7.0	ACAD	5.9

Main *benefits* from cooperation – Finland vs. Europe

As answered by academics



Academics in Finland nominate that the greatest *benefits* from UBC is for students '('UBC improve employability of future graduates', 'UBC improve the learning experience of students'), followed by personal *benefits* ('Successful UBC increases reputation in my field of research', and 'Successful UBC is an excellent way of getting funding') and business *benefits* ('UB activities improve the performance of business'). On the same level as the business *benefits* (7.5), academics see the *benefits* for the HEI in achieving its mission.

Generally speaking, Finnish academics perceive the *benefits* of UBC as far higher than the European average. The only exception is business *benefits*, which are slightly less developed according to Finnish academics.

On a factored level (see previous page) the results point to the significantly higher perceived *benefits* for the academics themselves (7.0 compared to 5.9 on the European level). However, also the *benefits* for students and graduates as well as HEIs are considered higher than the European average, with only business *benefits* being nearly at the same level.

Overall, Finnish academics rank seven out of the nine measured *benefits* as high with only two being rated as moderate.

Main *benefits* of UBC identified by Finnish academics

1. UBC improve employability of future graduates,
2. UBC improve the learning experience of students)
3. Successful UBC increased reputation in my field of research
4. Successful UBC is an excellent way of getting funding
5. UBC improve the performance of business

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 representatives (orange) in Finland compared to the EU average. The benefits have been factored into 'meta-groups' to provide a more strategic understanding.

Three groups of UBC *benefits* for academics

Resulting from an analysis of the results, *benefits* for academics can be categorised in the following groups:

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

Benefits (grouped) from cooperation – Finland vs. Europe

As answered by HEIs' representatives

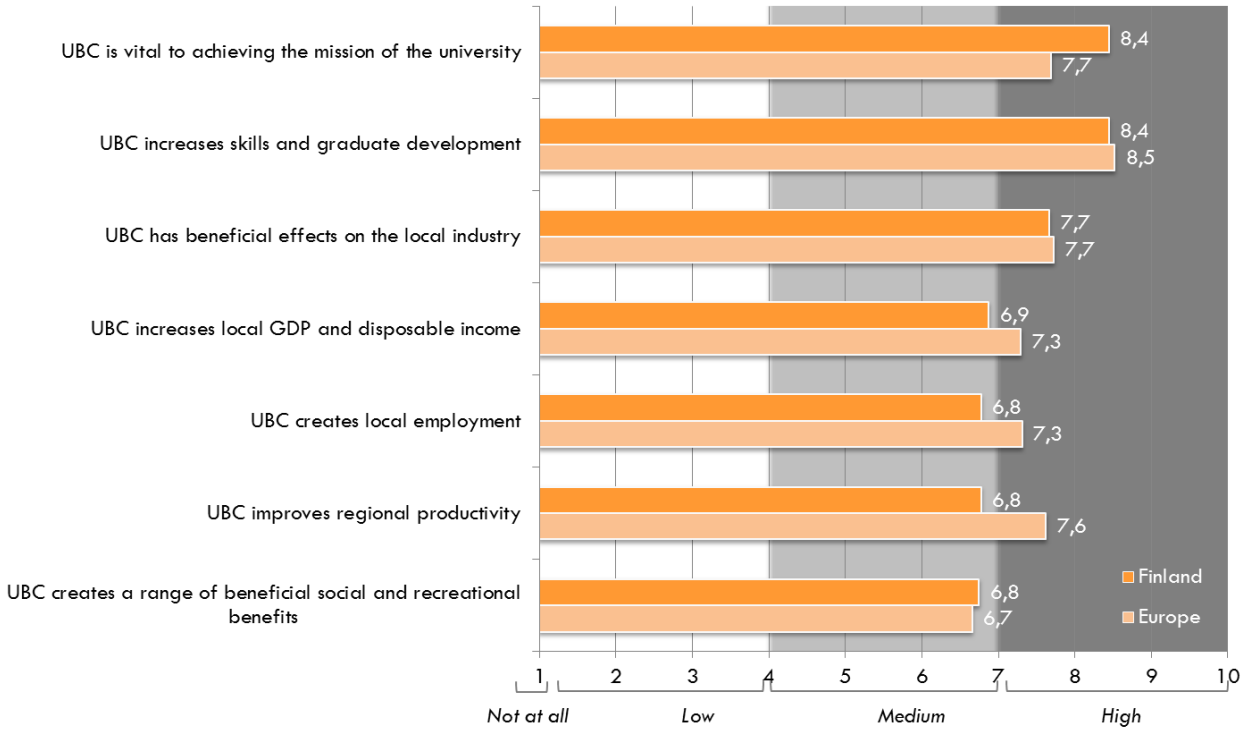
Benefits for the HEI	Extent of importance (1-10)		Extent of importance (1-10)	
• UBC is vital to achieving the mission of the HEI.	Finland		Europe	
	HEI	8.4	HEI	7.7

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
• UBC increases skills and graduate development	Finland		Europe	
	HEI	8.4	HEI	8.5

Benefits for business and society	Extent of importance (1-10)		Extent of importance (1-10)	
• 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	Finland		Europe	
	HEI	7.0	HEI	7.3

Main *benefits* from cooperation – Finland vs. Europe

As answered by HEIs' representatives



HEI representatives in Finland perceive all *benefits* from UBC to be of a upper medium or a high extent, with the *benefits* for 'HEIs' '('UBC is vital to achieving the mission of the HEI'') and 'students' '('UBC increases skills and graduates development'') to be developed the highest.

The comparison of the Finnish and European data shows a diversity of results. While Finnish HEIs' representatives consider the contribution of UBC to 'achieving the university's mission' significantly higher than the European average, all other *benefits* are considered (nearly) on the same level or lower.

The factored results (see previous page) show that the *benefits* for business and society are considered to be slightly lower (-0.3) than the European average with students *benefits* being nearly as high (-0.1)

Main *benefits* of UBC identified by Finnish HEIs' representatives
1. UBC is vital to achieving the mission of the university
2. UBC increases skills and graduate development
3. UBC has beneficial effect on the local industry
4. UBC increases local GDP and disposable income
5. UBC creates local employment

Benchmark

…universities in your region

Assisting governments and universities improve University-Business Cooperation (UBC)

Using the State of European UBC study results, decision makers, managers and practitioners involved in UBC 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 UBC,
3. proactive areas of focus for increasing UBC,
4. the required information to advance UBC 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 UBC.

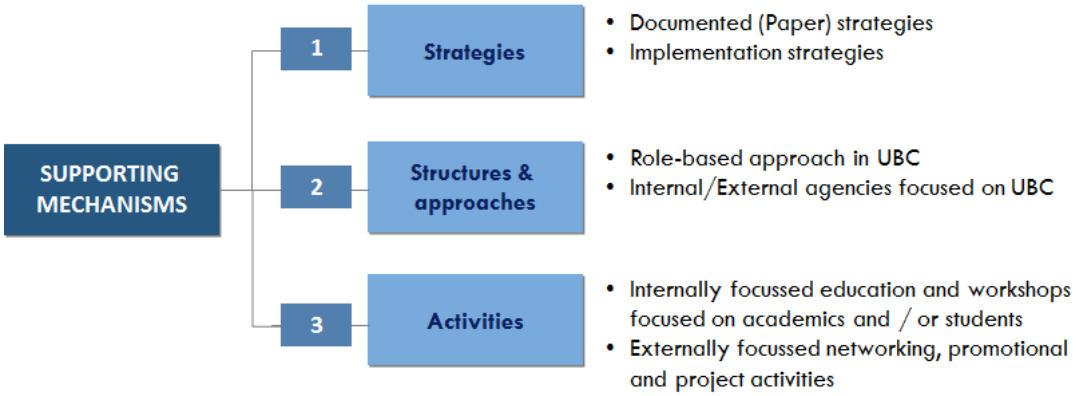
…your university

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 Finland. 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

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 an 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) – Finland vs. Europe

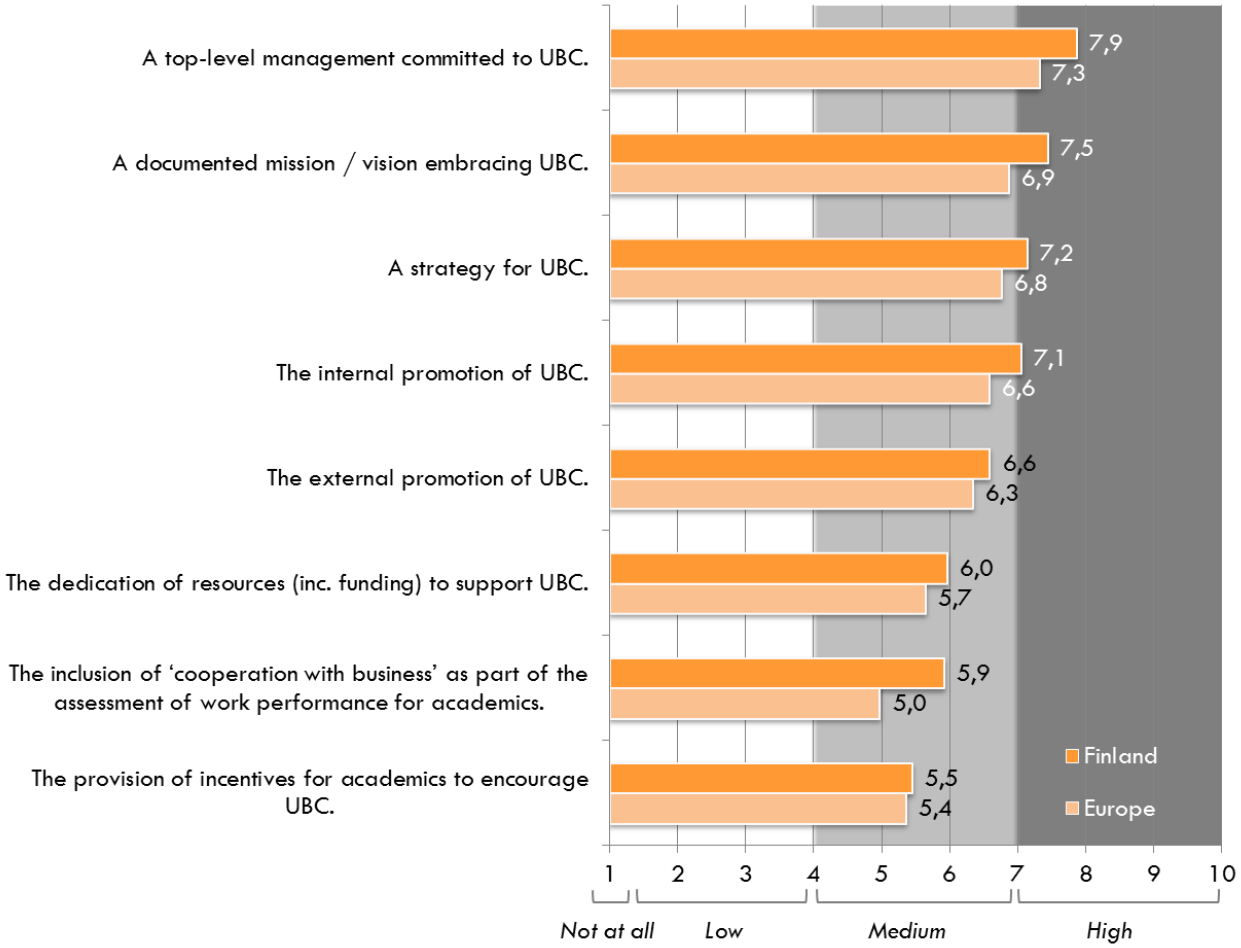
As answered by HEIs' representatives

Documented (Paper) strategies	Extent of development (1-10)		Extent of development (1-10)	
• 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.	Finland		Europe	
	HEI	7.2	HEI	6.8

Implementation and motivation strategies	Extent of development (1-10)		Extent of development (1-10)	
• 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.	Finland		Europe	
	HEI	5.8	HEI	5.4

Development of UBC *strategies* – Finland vs. Europe

As answered by HEIs' representatives



'Documented *strategies* ' (see previous page) supporting UBC show a high extent of development with (see above) 'a top-level management committed to UBC' (7.9), 'a documented mission / vision embracing UBC' (7.5), and 'a strategy for UBC' (7.2) and 'the internal promotion of UBC' (7.1) being rated the highest. Overall the documented *strategies* in Finland are at a moderately high extent of development.

In comparison to the European average 'implementation and motivation *strategies*' (see previous page) are only moderately developed in Finland, however, still higher than the European average. More specifically of note is that 'inclusion of cooperation with business as part of the assessment of work performance for academics' (see above) is far higher developed compared to the European average.

Overall the Finnish HEIs show a higher extent of development of all *strategies* when compared with the EU average.

	Finland
Highly developed	1. A top-level management committed to UBC 2. A documented mission / vision embracing UBC 3. A strategy for UBC 4. The internal promotion of UBC
Moderately developed	5. The external promotion of 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

UBC *structures and approaches* are constructions created as a result of top-level strategic decisions within (or related to) a HEI that are an 'enabler' of UBC and include the creation or development of institutions, positions, methods and policies and programmes. They are put in place in order to promote, develop or implement UBC with a mid to long term focus and can be created within the HEI or 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 an 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) – Finland vs. Europe

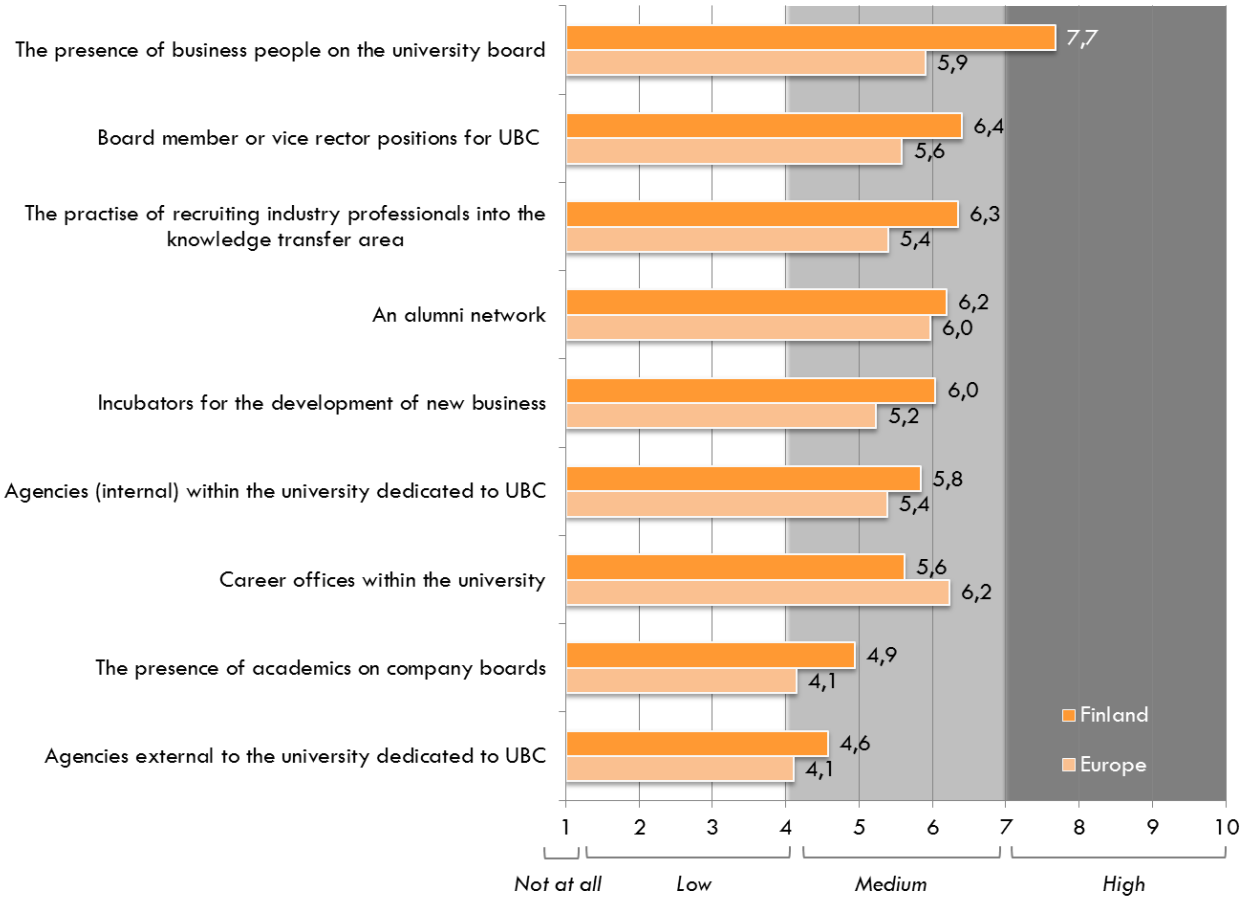
As answered by HEIs' representatives

Roles-based approaches in UBC	Extent of development (1-10		Extent of development (1-10	
• 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.	Finland		Europe	
	HEI	6.4	HEI	5.4

Internal/External agencies focused on UBC	Extent of development (1-10		Extent of development (1-10	
• 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.	Finland		Europe	
	HEI	5.5	HEI	5.3

Development of UBC *structures and approaches* – Finland vs. Europe

As answered by HEIs' representatives



The extent of development of the *structures and approaches* for UBC in Finland shows the devotion of Finland HEIs to the support and development of UBC. With 'career offices within the university' as an exception, Finnish HEIs' representatives report a higher extent of development than the European average, with the 'presence of business people on the university board' being far more developed (+1.8).

The factored results (see previous page) show that the focus in Finland is on 'role-based approaches in UBC' (6.4, +1.0 compared to Europe). 'Internal/external agencies focused on UBC' are far less developed (5.5) though slightly higher than on European level.

The rating of 'the presence of business people on the HEI board' seems to contradict with the medium rating of 'governance' (the lowest developed type of UBC) although the lower rating of 'the presence of academics on company boards' appears to support this finding to a greater degree.

High developed	1. The presence of business people on the HEI board
Medium developed	2. Board member or vice rector positions for UBC 3. The practise of recruiting industry professionals into the knowledge transfer area 4. An alumni network 5. Incubators for the development of new business 6. Agencies (internal) within the HEI dedicated to UBC 7. Career offices within the university 8. The presence of academics on company boards 9. Agencies external to the university dedicated to UBC

Operational activities for UBC

Operational activities are actions of a practical and immediate nature undertaken by HEIs, governments, regional agencies, HEIs and business to create and support UBC. *Operational activities* are usually the least cost to implement of all the *supporting mechanisms* require less commitment from HEI management and whose scope and volume can be described/measured.

Three groups of UBC *Operational activities*

Resulting from an 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) – Finland vs. Europe

As answered by HEIs' representatives

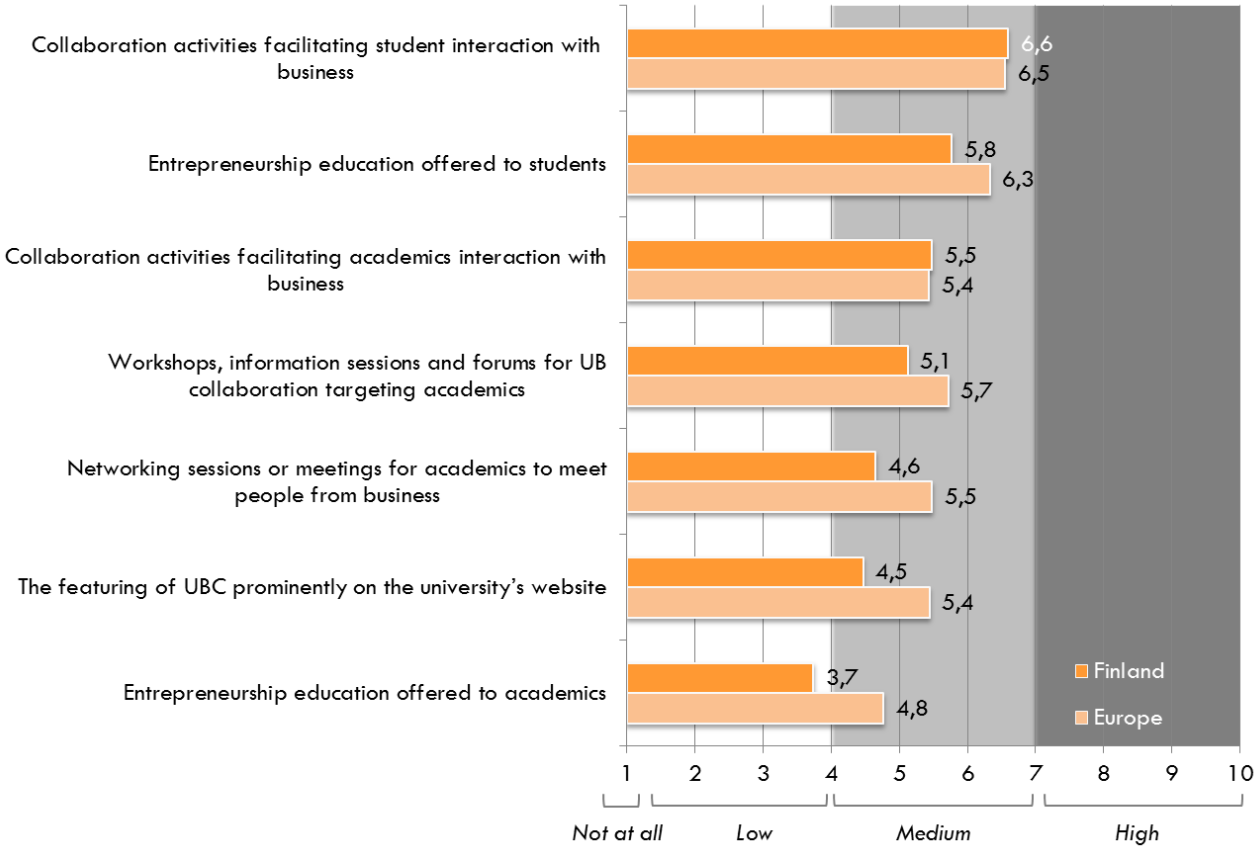
Internally focused education and workshops focused on academics	**Extent of development (1-10)**		**Extent of development (1-10)**	
• Workshops, information sessions and forums for University-Business collaboration targeting academics, • Entrepreneurship education offered to academics.	**Finland**		**Europe**	
	HEI	**4.4**	**HEI**	**5.3**

Internally focused education and workshops focused on students	**Extent of development (1-10)**		**Extent of development (1-10)**	
• Entrepreneurship education offered to students.	**Finland**		**Europe**	
	HEI	**5.8**	**HEI**	**6.3**

Externally focused networking, promotional and project activities	**Extent of development (1-10)**		**Extent of development (1-10)**	
• 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.	**Finland**		**Europe**	
	HEI	**5.4**	**HEI**	**5.7**

Development of UBC *operational activities* – Finland vs. Europe

As answered by HEIs' representatives



With respect to UBC *operational activities*, Finnish HEIs' representatives report student-facing activities to be the highest developed, including 'collaboration activities facilitating student interaction with business' (6.6) and 'entrepreneurship education offered to students' (5.8).

Following the student-focused activities (5.8 on a factored level; see previous page), 'externally-focused activities' are developed slightly lower (5.4) with those activities targeting academics being significantly lower (4.4). One activity focused on academics, namely 'entrepreneurship education offered to academics' has a low development level.

The low rating of 'featuring of UBC prominently on the university's website' could be an explanation why 'business lack awareness of university research activities/offerings' was reported as a main *barrier*.

Overall, Finnish HEI representatives report that their *operational activities* are less developed compared to the European average.

Moderately developed	1. Collaboration activities facilitating student interaction with business 2. Entrepreneurship education offered to students 3. Collaboration activities facilitating academic interaction with business 4. Workshops, information sessions and forums for UBC targeting academics 5. Networking sessions or meetings for academics to meet people from business 6. The featuring of UBC prominently on the university's website 7. Entrepreneurship education offered to academics

Describing University-Business Cooperation (UBC)

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, Arno Meerman.

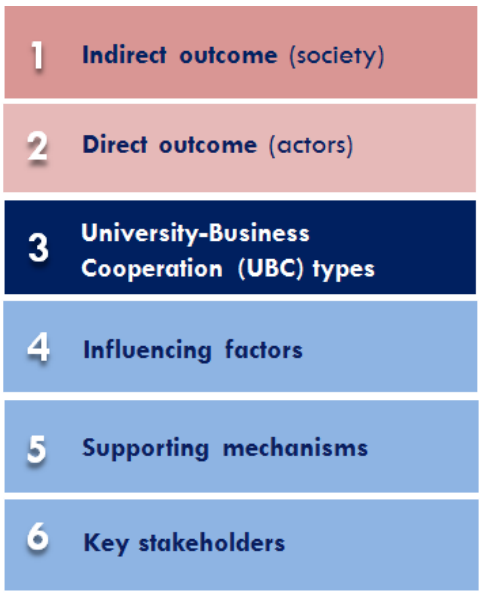
Model validation partners

Science-to-Business Marketing Research Centre, UIIN, apprimo UG, Business Arena.

Co-created by

105 practitioners validating the model in their work.

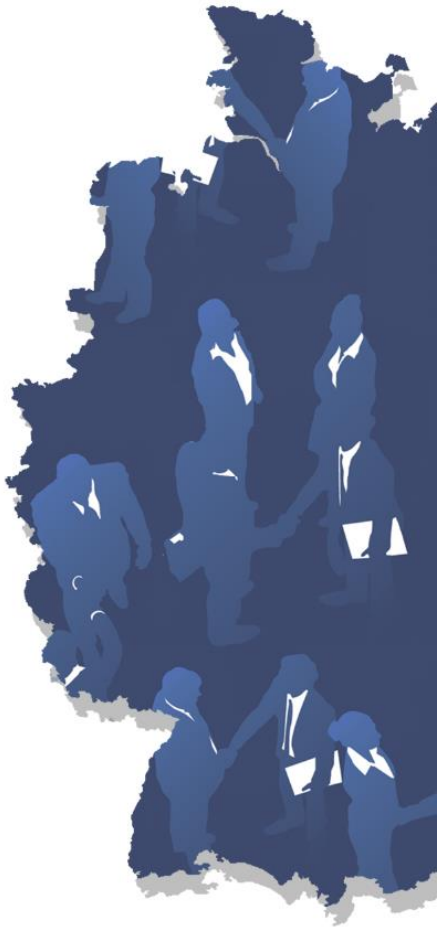
The model relationships have been scientifically validated by the Science-to-Business Marketing Research Centre

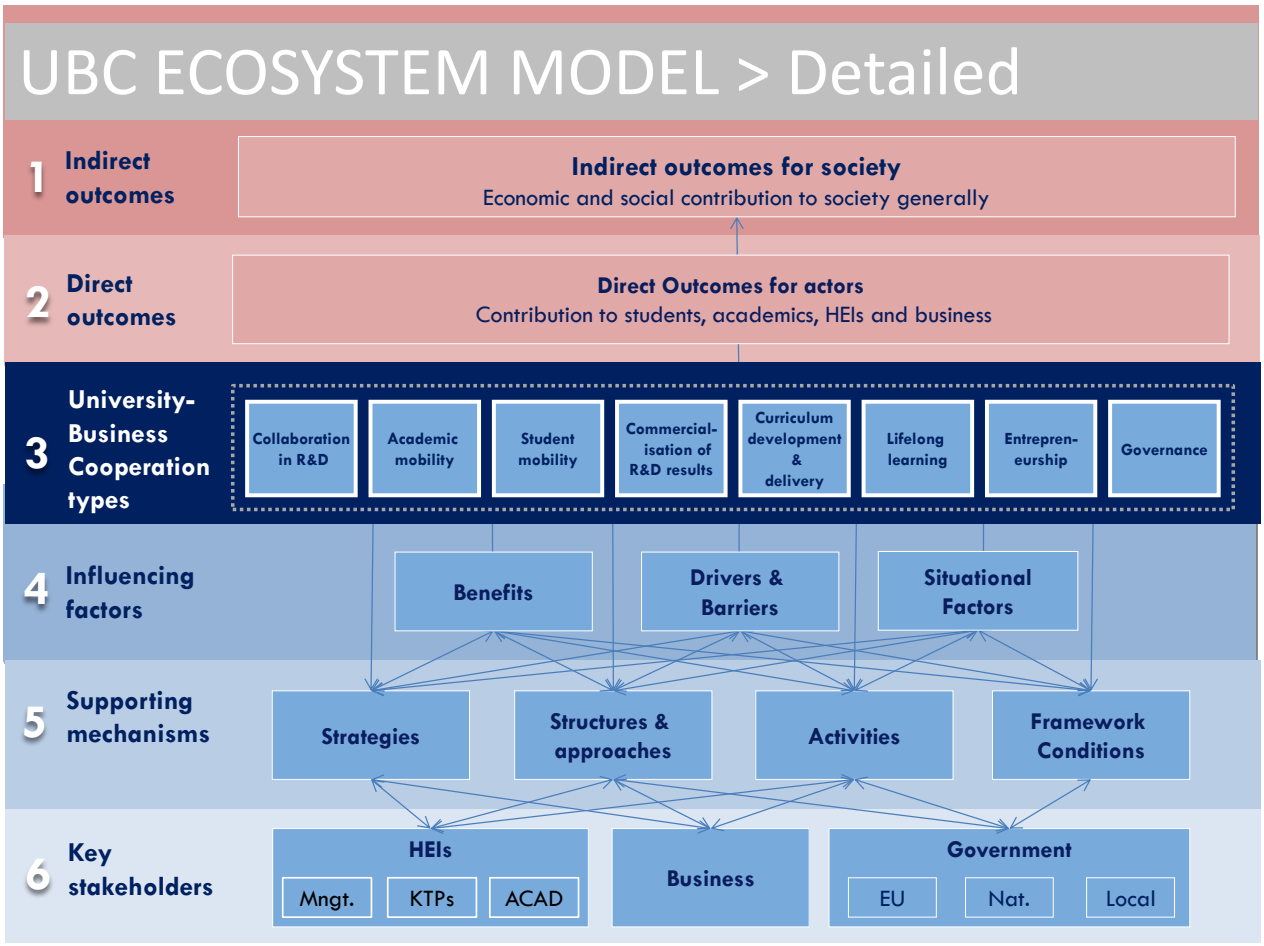


Are you?

- 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





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.

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