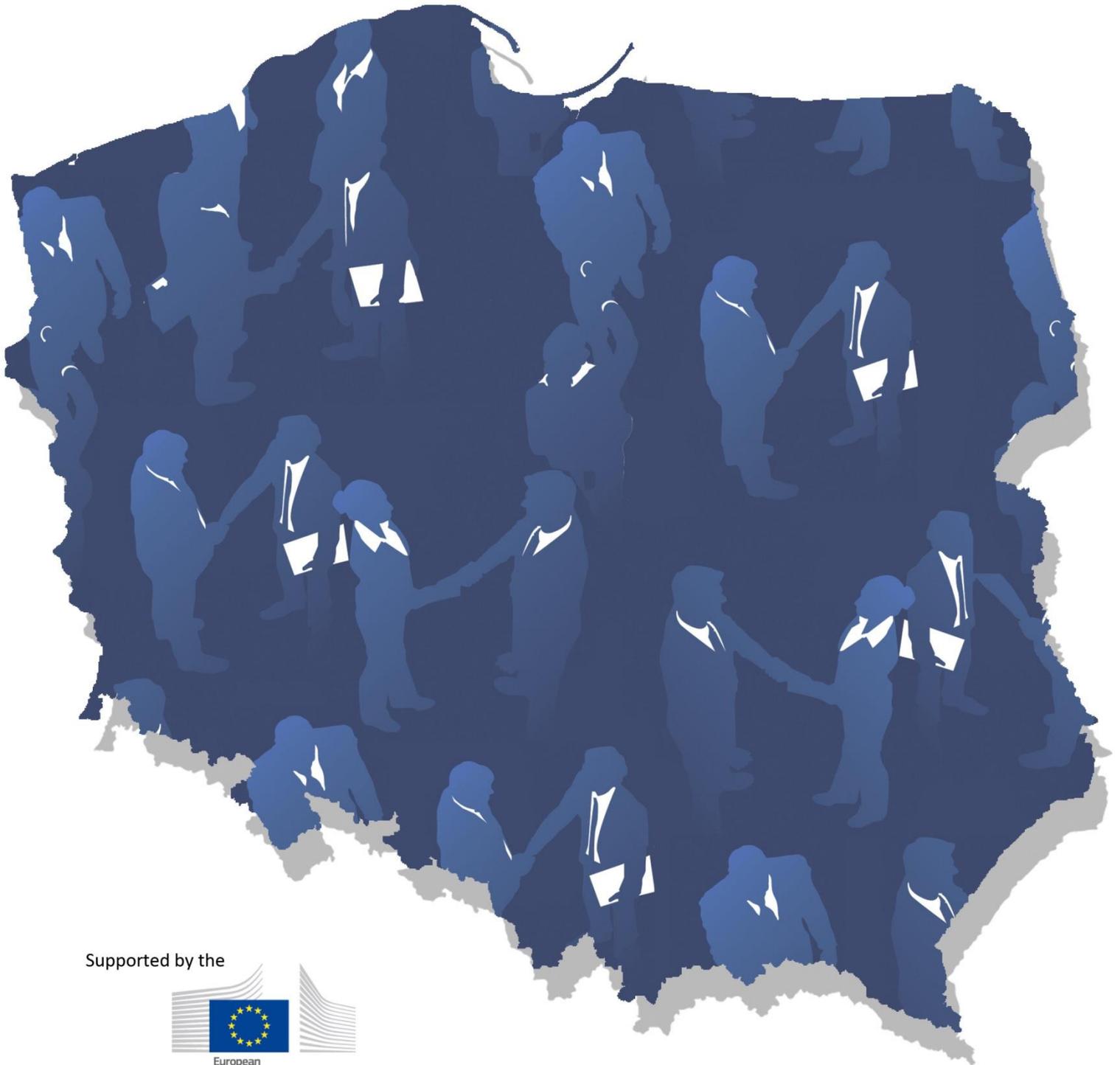


The State of University-Business Cooperation in Poland

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.

Table of Contents

Abbreviations	i
Executive summary	1
Introduction	3
Background	3
Objective	3
Methodology	3
Respondents (academic)	4
Respondents (HEIs)	5
Results	6
Extent of UBC	6
Factors influencing the extent of UBC	8
<i>Barriers</i> hindering UBC in Poland	9
<i>Drivers</i> stimulating UBC in Poland	11
<i>Benefits</i> of cooperation (academic perspective)	13
<i>Benefits</i> of cooperation (HEI perspective)	15
Supporting mechanisms for UBC	18
Strategies for UBC in Poland	19
<i>Structures and approaches</i> for UBC in Poland	21
Operational activities for UBC in Poland	23
References	27

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UIIN
University Industry
Innovation Network

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Executive summary

Significant change is required for Poland to improve collaboration between HEIs and business

The results of this study reflect a significant lack of commitment and cultural orientation to university-business cooperation (UBC) in Poland. Whether it be the low-medium development of cooperation and *Commercialisation of research and development (R&D)*, the poor balance between perceived *barriers* and *drivers* of UBC, or the development of UBC *supporting mechanisms*, Polish higher education institution (HEI) managers and academics rate themselves and their environment to be one of the least oriented to UBC in Europe. Significant change is required in Poland if UBC is to be developed involving all UBC stakeholders. Government and HEI management need to work together with a long-term commitment, not only to create appropriate support *strategies, structures and approaches*, but also to bring about necessary cultural change to embrace UBC.

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 Poland, 620 responses from academics (461) and HEI management (159) were received. The study measured the perceptions of these two groups in respect to their own cooperation efforts and those of their universities respectively.

Student mobility and Lifelong learning are the most developed forms of UBC

The most developed types of UBC in the Poland are: (1) *Mobility of students*, (2) *Lifelong learning (LLL)*, and (3) *Curriculum development and delivery* with the least developed type being: *Commercialisation of R&D results*. Unusually for a European country, neither *Collaboration in R&D* nor *Commercialisation of R&D results* appears in the top three developed types. Furthermore, HEI managers assess their HEIs as the lowest of all European nations in respect to both of these types of collaboration. These results highlight that *Collaboration in R&D* and *Commercialisation of R&D results* need greater focus and development in Polish HEIs.

Funding *barriers* to UBC need to be reduced in Poland

Polish HEI managers perceive '*funding barriers*' as the highest with 'lack of HEI funding', 'lack of financial resources of the business' and 'lack of external funding' to be three of the top four barriers. Polish academics perceive all *barriers* to UBC, including '*funding barriers*', '*relationship barriers*' and '*usability of results*', relatively equally and all slightly above the European average.

Relationships drive cooperation in Poland

As in Europe generally, '*relationship drivers*' such as (1) 'prior relation with the business partner', (2) 'existence of mutual trust' and (3) 'having a shared goal' were nominated as the biggest drivers of UBC. Overall, both HEI managers and academics perceive the extent of UBC *drivers* to be well below the EU average with academics rating them the lowest of all European academics. Relationships between academic and business managers need to be fostered and supported to a greater degree and from this and increased *Collaboration in R&D* is likely to be one of the results.

Furthermore, both HEI managers and academics perceive Poland to be the least favourable environment in Europe when *barriers* are compared with *drivers*.

Academics perceive lesser *benefits*, especially personal *benefits* from UBC

Polish academics perceive the primary winners from UBC to be: (i) students, (ii) businesses followed by (iii) *benefits* to the HEI, and (iv) personal *benefits*. 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 HEIs *benefit* the least from UBC after (i) students, (ii) HEIs, and (iii) business and society with all *benefits* from UBC perceived lower than the EU average.

Perceived followers in UBC *supporting mechanisms*

Consistent with the results described until now, in respect to the UBC supporting mechanisms, both HEI managers and academics perceive those in Poland to be below the European average.

In respect to UBC strategies, the two lowest developed *strategies* tellingly are the 'provision of incentives for

academics' and the dedication of resources' for UBC whilst 'a top-level management committed to UBC' as well as *strategies* for UBC and 'a vision/mission incorporating UBC' are well below the European average.

The development of *structures and approaches* are characterised by a low development of 'roles-based approaches' with most *structures and approaches* lowly developed.

UBC *activities* are the most developed forms of support for UBC. With *activities* being the easiest and least-cost form of support, it is evident that there is a lack of commitment to UBC in Poland.

Adding to the negative UBC results for Poland is the fact that Polish academics perceive their HEI UBC *strategies*, including '*implementation strategies*', at a low level and the least developed in Europe.

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 regional and national level³ as well as meet 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 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 significant 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 *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 Poland 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 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 managers was achieved, making the project 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:

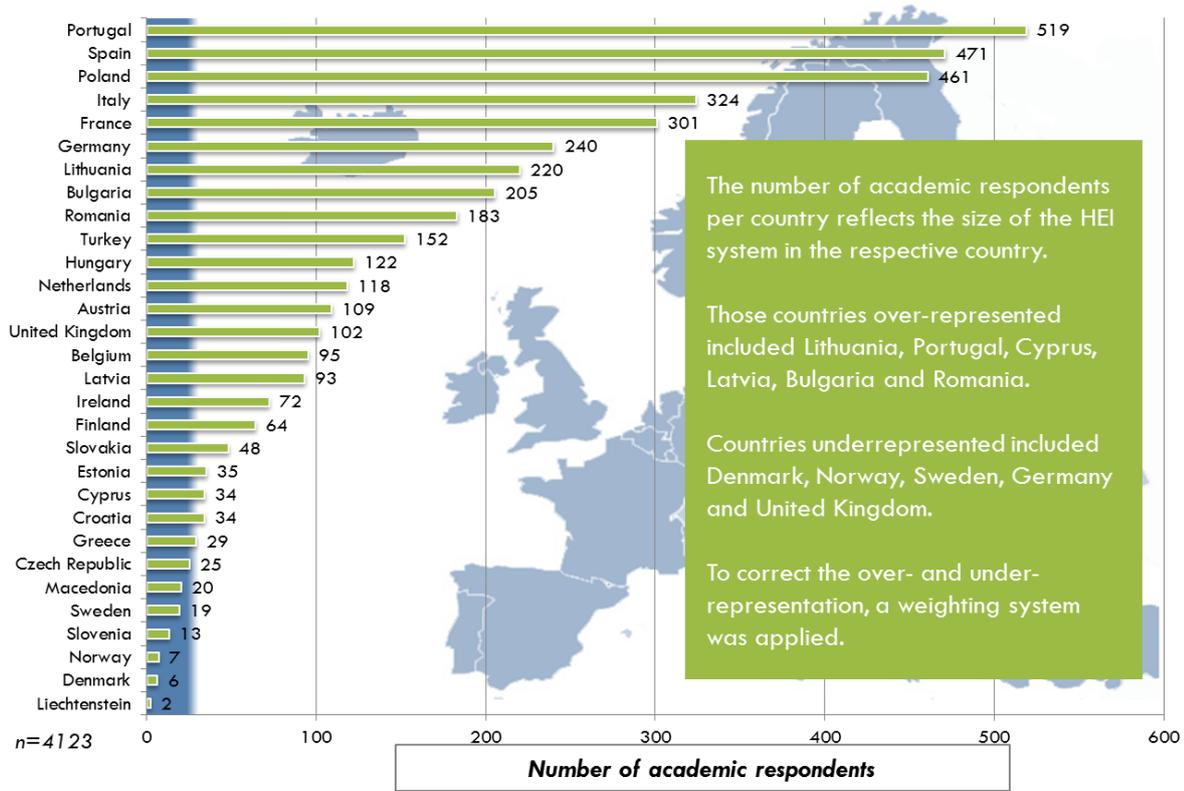
1. **Individual academics** were asked to respond on behalf of themselves.
2. **HEI management** (HEI managers and university professionals working with industry) were asked to respond on behalf of their HEI.

	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

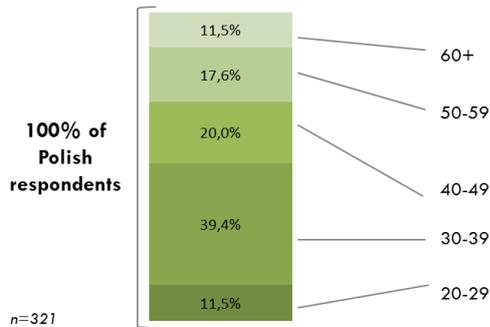
Colour codes have been used throughout the report to identify those results received from academics (green) and those results received from the HEI (orange).

Respondents (academic)

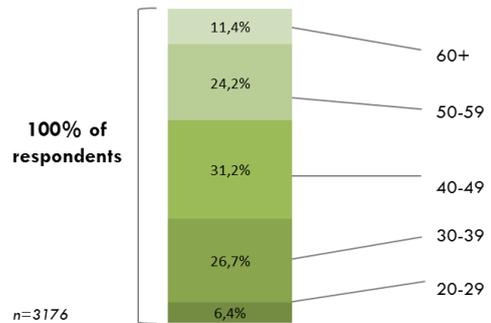
Country



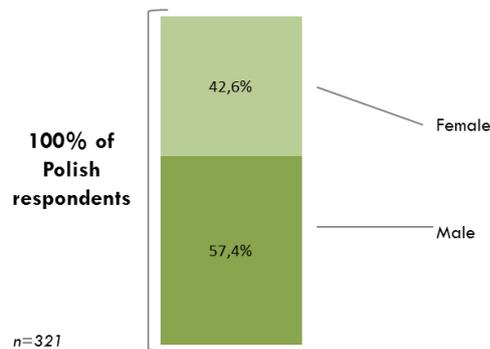
Age of respondents in Poland



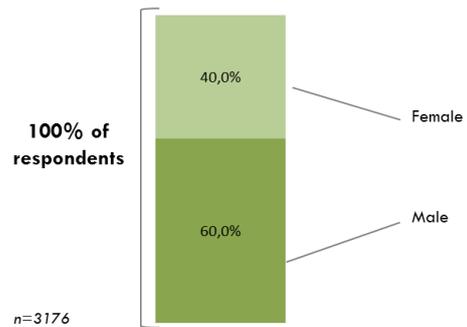
Age of respondents in Europe



Gender of respondents in Poland

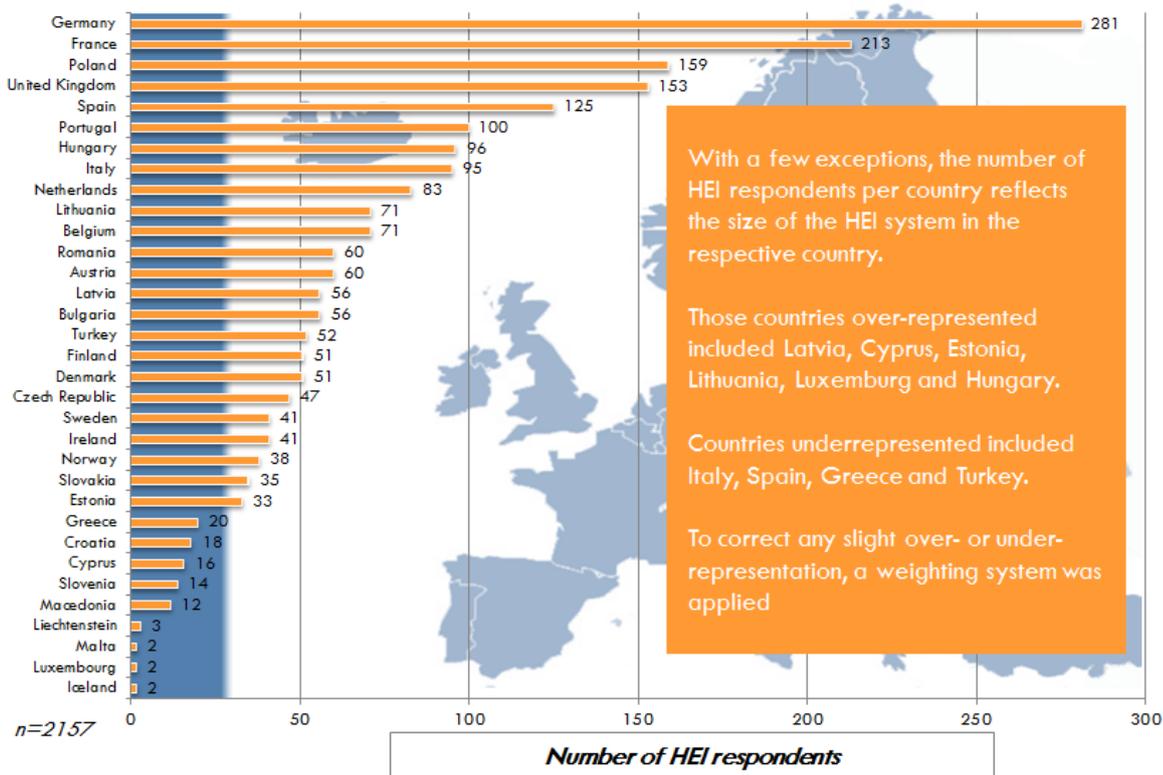


Gender of respondents in Europe

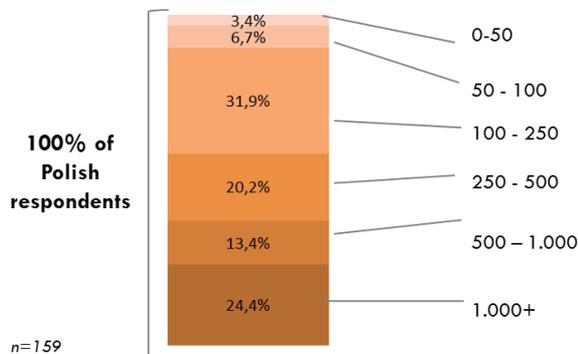


Respondents (HEIs)

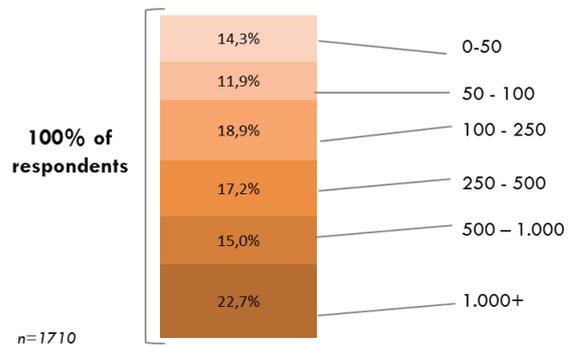
Country



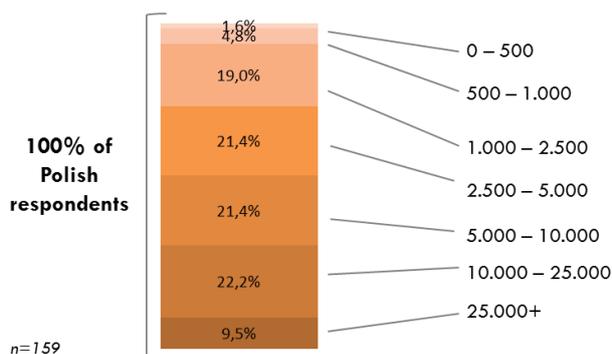
Number of academics per HEI in Poland



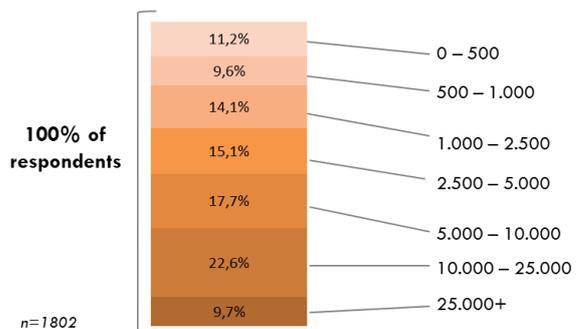
Number of academics per HEI in Europe



Number of students per HEI in Poland



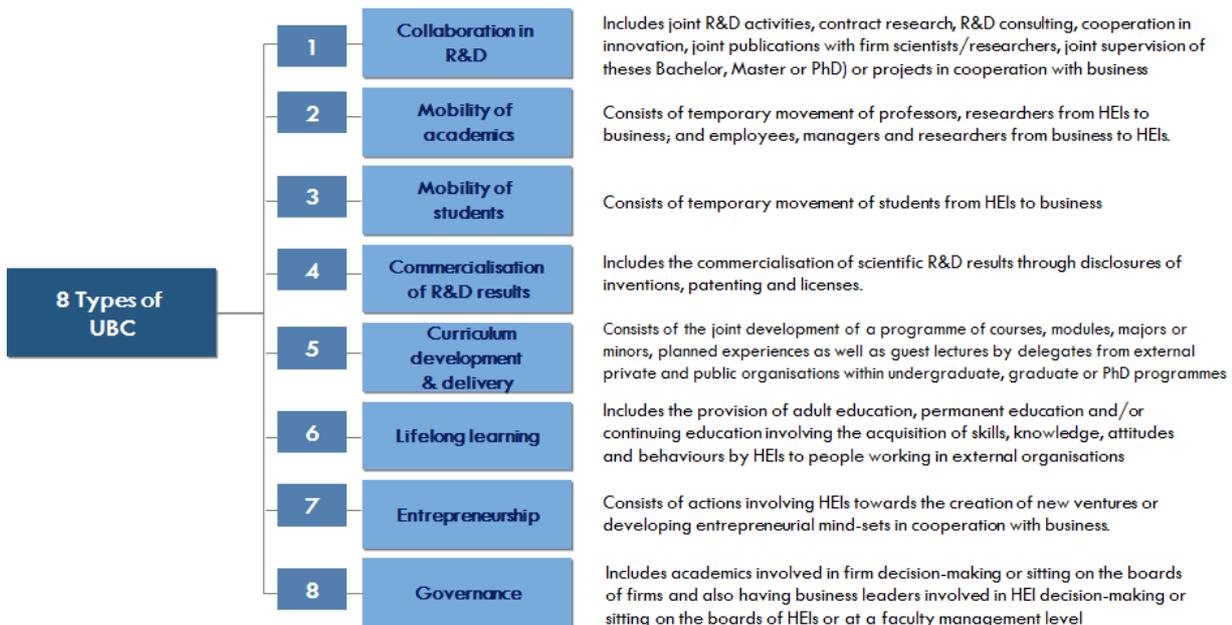
Number of students per HEI in Europe



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:

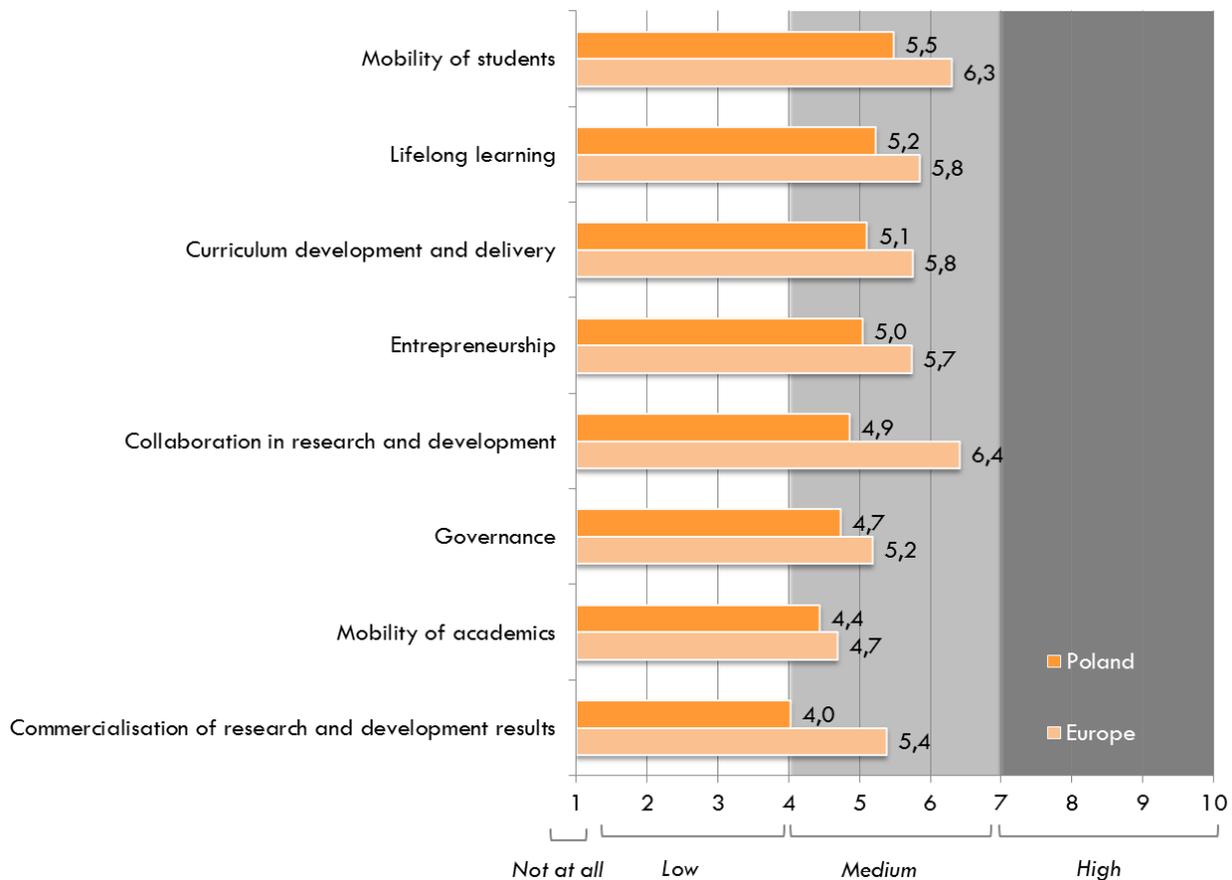
1. the 'innovators' undertaking a higher level for all types of UBC,
2. the 'majority' undertaking a medium level for all types of UBC,
3. the 'laggards' executing generally a low level (or not at all) for all types of UBC.

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 Poland

As answered by HEI management



Extent of cooperation in Poland

There is a low degree of diversity in the development of the different types of UBC in Poland, with *Mobility of students* (5.5), *LLL* (5.2) and *Curriculum development and delivery* (5.1) as the most developed types.

Benchmarking Poland

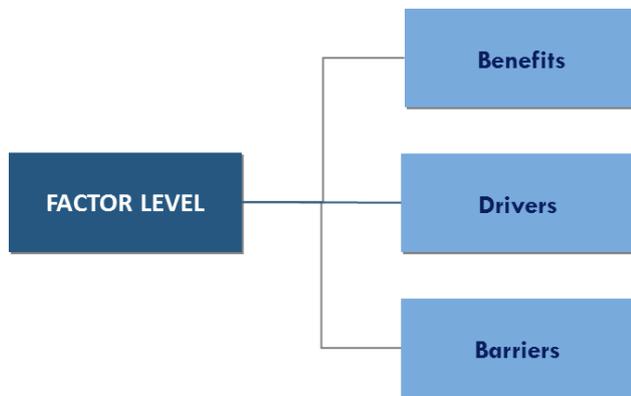
According to the results, Polish HEI management report the extent of UBC being lower than the European average, especially for *Mobility of academics* and *Commercialisation of R&D results*.

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

	Poland	Europe
Moderately developed	<ol style="list-style-type: none"> 1. Mobility of students 2. Lifelong learning 3. Curriculum development and delivery 4. Entrepreneurship 5. Collaboration in R&D 6. Governance 7. Mobility of academics 8. Commercialisation of R&D results 	<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 Poland. These factors have been found to significantly influence cooperation within the European context.



Benefits for students, the HEI, business, society and academics.

Drivers relating to:

- Commercial, practical and logistical drivers,
- Relationship drivers.

Barriers relating to:

- Usability of results,
- Organisational and relational barriers,
- Funding barriers.

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 Poland

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 Poland 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 – Poland vs. Europe

As answered by academics and HEI management

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.

Usability of results	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Poland		Europe	
	ACAD	6.5	ACAD	6.1
HEI	6.3	HEI	6.0	

Funding barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Poland		Europe	
	ACAD	6.6	ACAD	6.5
HEI	7.1	HEI	6.8	

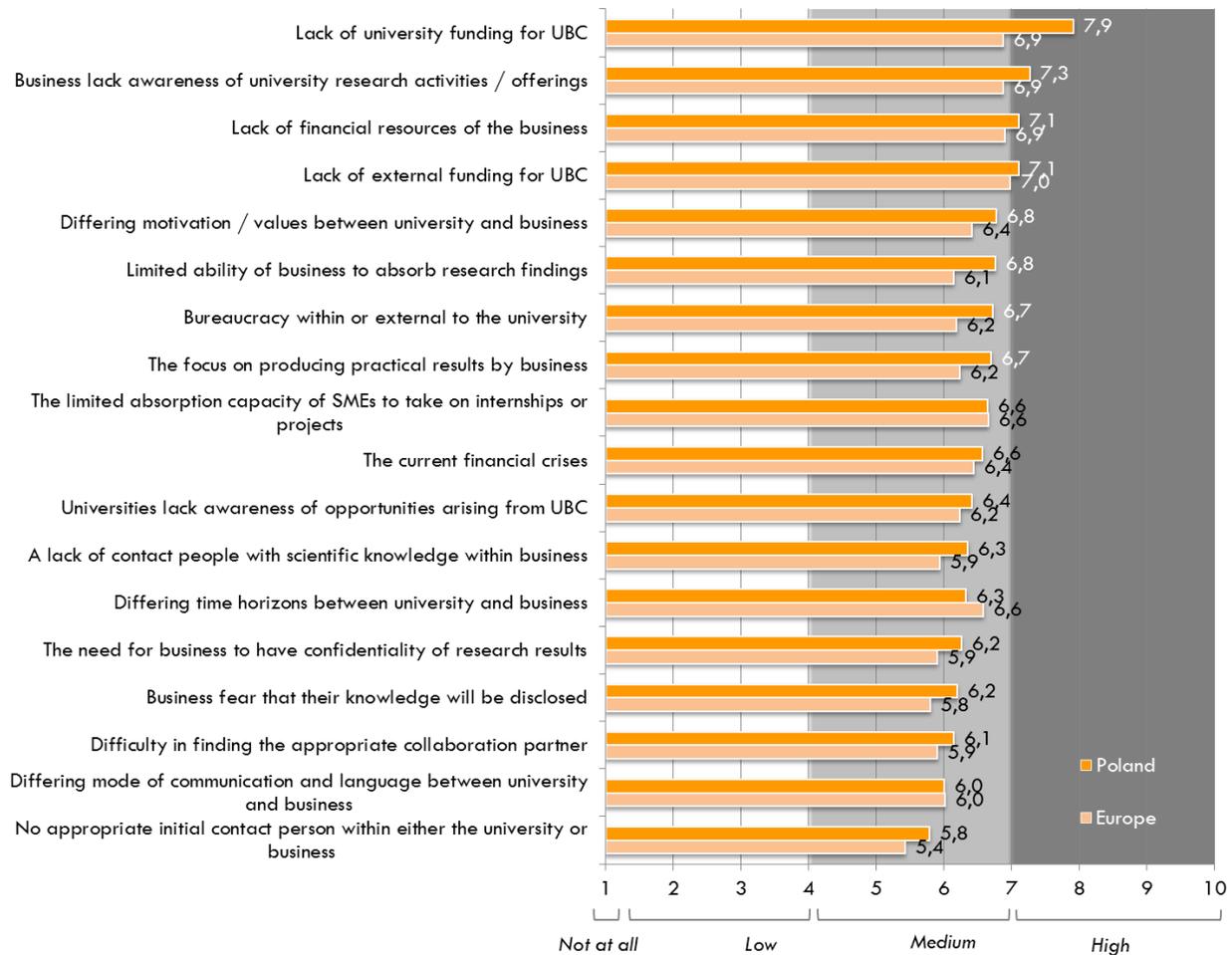
Relational barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
	Poland		Europe	
	ACAD	6.6	ACAD	6.4
HEI	6.5	HEI	6.2	

Comparing Polish HEI representative with Polish academic responses (see table above)

Polish HEI management and academics assess all barriers slightly higher than the EU average, with the largest difference being amongst the 'usability of results'.

Main barriers to cooperation – Poland vs. Europe

As answered by HEI management



Funding barriers are the biggest barriers to UBC in Poland (see graph above)

The most prominent *barriers* named by the Polish HEI management are those related to the ‘*funding barriers*’ between the HEI and business including ‘lack of university funding for UBC’ (7.9), ‘lack of financial resources of the business’ (7.1) and ‘lack of external funding for UBC’ (7.1). In addition, Polish HEI management reported the ‘business lack awareness of university research activities’ (7.3) as a key issue.

UBC barriers are perceived lower in Poland than in Europe (see graph above and previous page)

Polish HEI management assess most *barriers* as more relevant than the EU average except for ‘differing time horizons between university and business (6.3 compared to 6.6).

With respect to the more relevant *barriers* in Poland it can be stated that ‘differing motivation / values between university and business’ (6.8), ‘limited ability of business to absorb research findings’ (6.8), ‘bureaucracy within or external to the university’ (6.7) and ‘the focus on producing practical results by business’ (6.7) are seen as far more relevant *barriers*

in Polish UBC compared to European average. 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). As such this should be considered to be true also in the Polish UBC environment.

Main barriers to UBC in Poland

1. Lack of university funding for UBC
2. Business lack awareness of university research activities / offerings
3. Lack of financial resources of the business
4. Lack of external funding for UBC
5. Differing time horizons between university and business

Drivers stimulating UBC in Poland

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 Poland compared to the EU average. The drivers have been factored into 'meta-groups' in order 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 – Poland vs. Europe

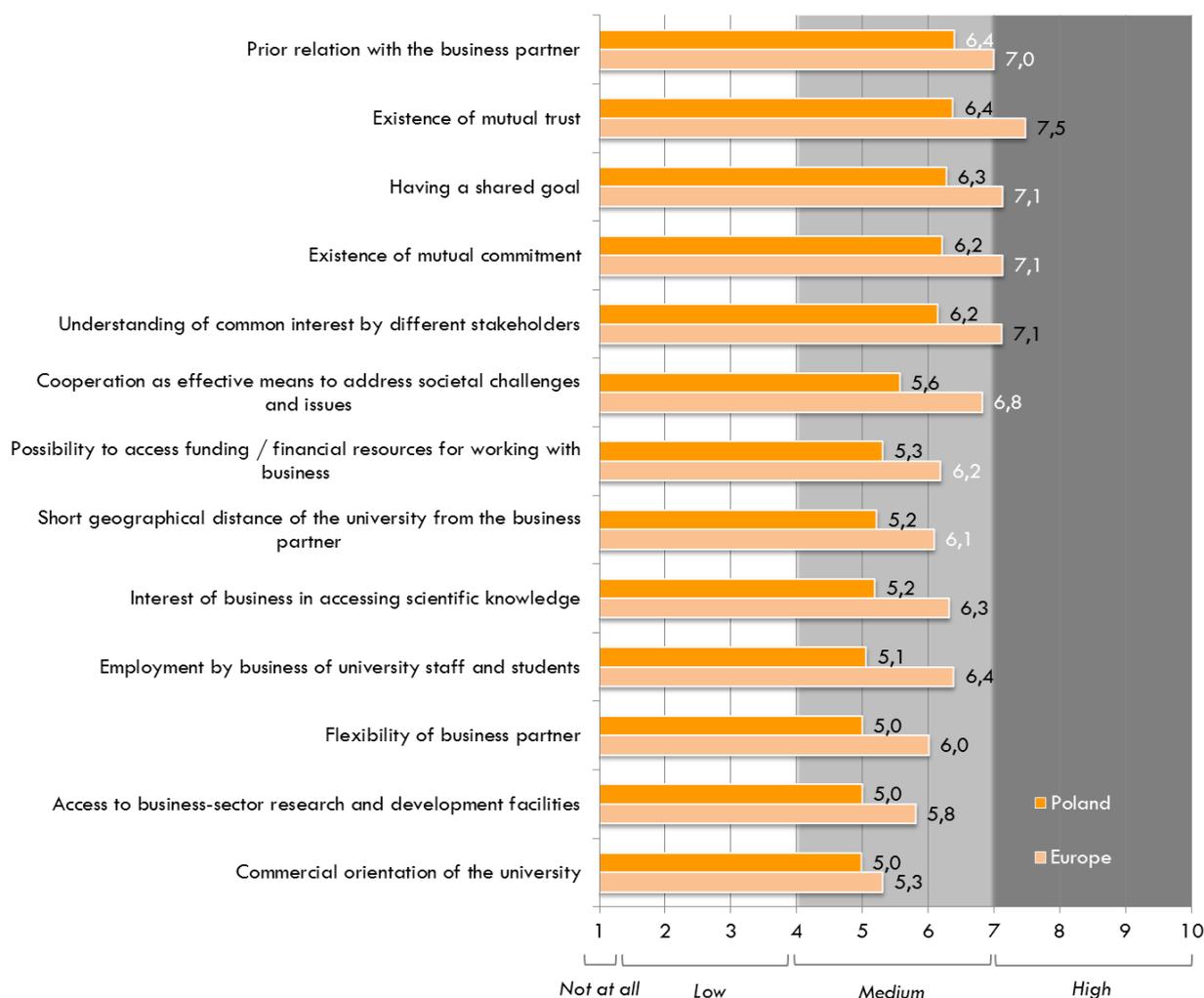
As answered by academics and HEI management

Relationship drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Poland		Europe	
		ACAD	5.7	ACAD
	HEI	6.1	HEI	7.0

Business drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
	Poland		Europe	
		ACAD	4.8	ACAD
	HEI	5.1	HEI	6.7

Main drivers of cooperation – Poland vs. Europe

As answered by HEI management



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

The HEI management in Poland perceive the highest drivers of UBC to be ‘relationship drivers’ such as ‘prior relation with the business partner’ (6.4), ‘existence of mutual trust’ (6.4), ‘having a shared goal’ (6.3), ‘existence of mutual commitment’ (6.2).

Compared to the ‘relationship drivers’, most ‘business drivers’ are seen as considerably less important including ‘commercial orientation of the university’ (5.0), ‘access to business-sector research and development facilities’ (5.0), ‘flexibility of business partner’ (5.0), and ‘employment by business of university staff and students’ (5.1) which can be found at the bottom of the above graph.

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

Polish respondents see the drivers of UBC for lower than EU respondents (see table from previous page)

Drivers of UBC are assessed substantially differently by academics and HEI management in Poland and Europe, the largest difference being amongst the ‘business drivers’. However also the relevance of the ‘relationship drivers’ is perceived significantly lower in Poland compared to the European average.

Primary drivers of UBC in Poland

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

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 Poland compared to the EU average. The benefits have been factored into 'meta-groups' 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.

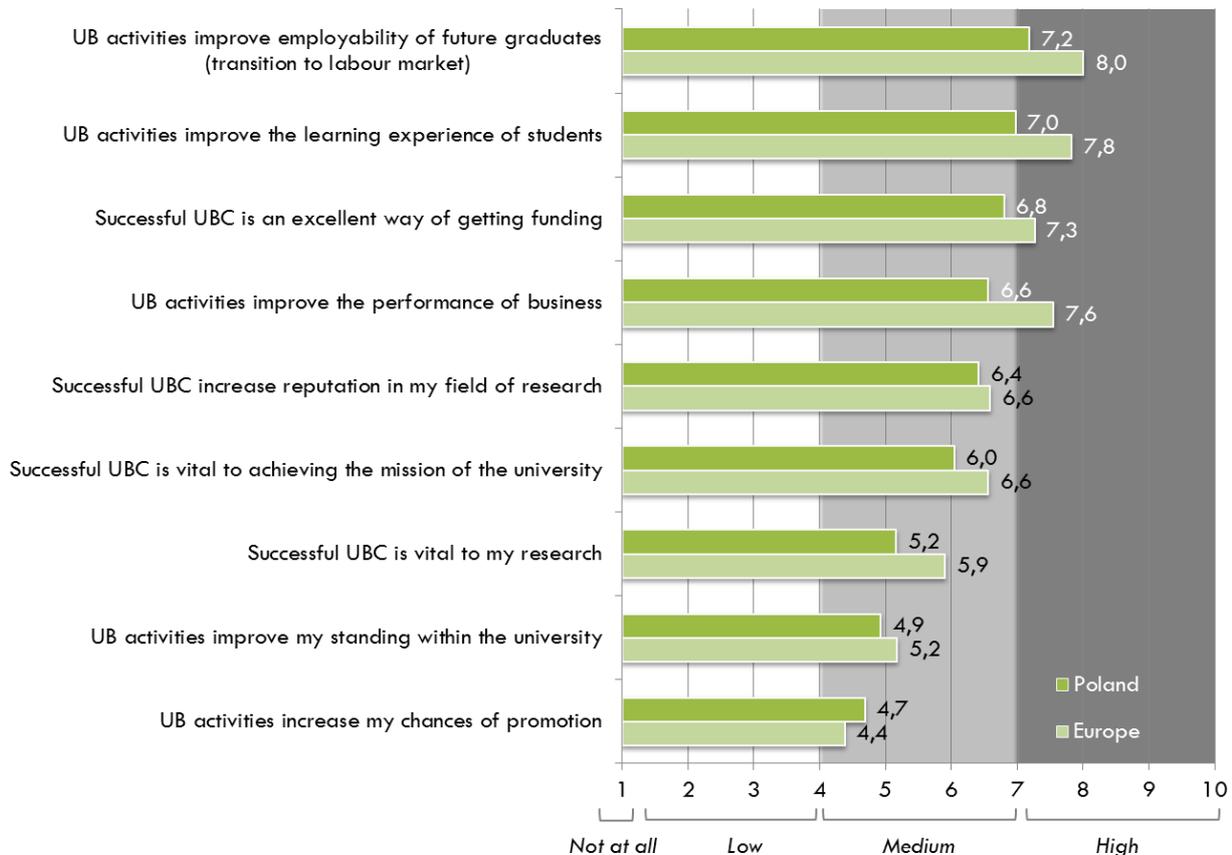
Benefits (grouped) from cooperation – Poland vs. Europe

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)	
	Poland		Europe	
	ACAD	7.1	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)	
	Poland		Europe	
	ACAD	6.6	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)	
	Poland		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)	
	Poland		Europe	
	ACAD	5.6	ACAD	5.9

Benefits from cooperation – Poland vs. Europe

As answered by academics



Students get the most benefit from UBC say academics

Academics in Poland nominate that the greatest *benefits* from UBC go to students ('university-business activities improve employability of future graduates' and 'UB activities improve the learning experience of students'), followed by *benefits* for business ('university-business 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.

Polish academics perceive low self-benefit from UBC activities (see graph above)

Whilst academics acknowledge that UBC is an excellent way of getting funding (6.8), they are much more negative in respect to their *benefits* with respect to the contribution to their research, (5.2), their standing in the university (4.9) and especially their increasing chances of promotion (4.7).

These results are in line with the grouped results (see previous page). Compared to these relatively high *benefits* for all other stakeholders (7.1, 6.6, 6.0), academics perceive their own *benefits* from UBC much lower (5.6).

Polish academics perceive slightly lower benefits from UBC than in Europe (see graph above)

In comparison with the EU average, Polish academics see all *benefits* slightly less positive. Except for 'UB activities increase my chances for promotion' (4.7 compared to 4.4).

Overall, Polish academics perceive the *benefits* from UBC to be of a lower extent, especially for the *benefits* for business and students.

Primary benefits of UBC identified by Polish academics

1. UB activities improve employability of future graduates
2. UB activities improve the learning experience of students
3. Successful UB cooperation is an excellent way of getting funding
4. UB activities improve the performance of business
5. Successful UB increases the 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 Poland compared to the EU average. The benefits have been factored into 'meta-groups' to provide a more strategic understanding.

Benefits (grouped) from cooperation – Poland vs. Europe

As answered by HEI management

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.

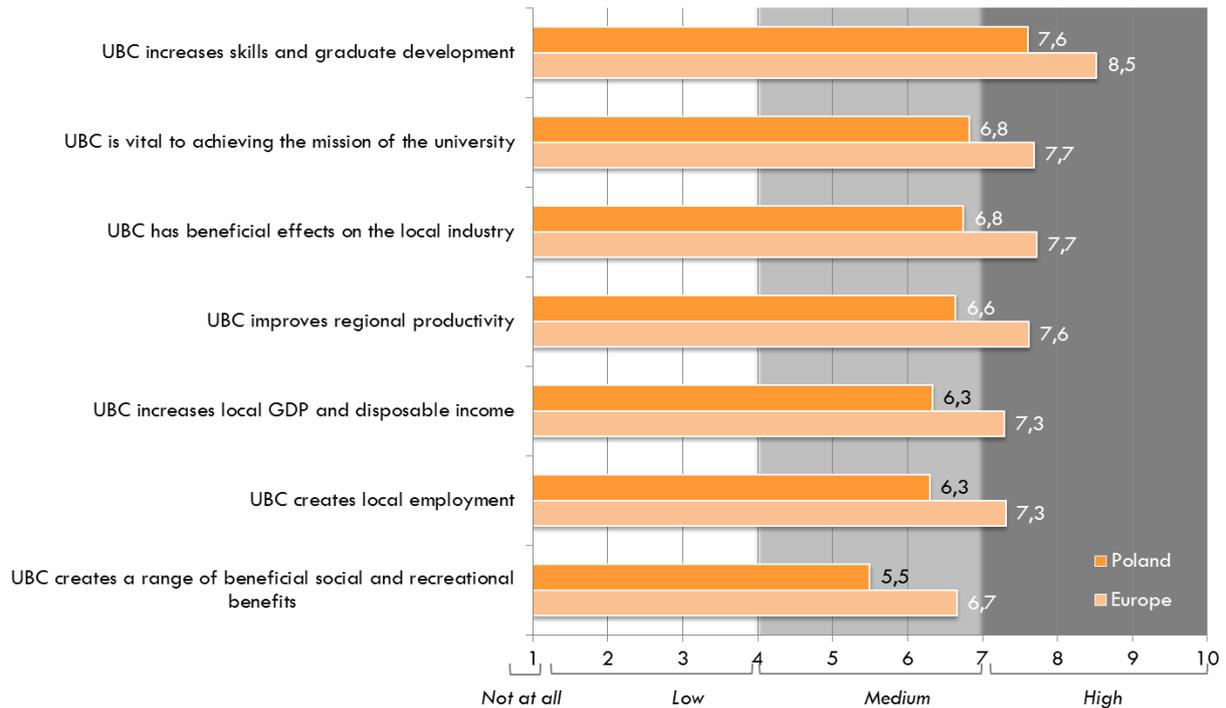
Benefits for the HEI	Extent of importance (1-10)		Extent of importance (1-10)	
	Poland		Europe	
	HEI	6.8	HEI	7.7
<ul style="list-style-type: none"> • UBC is vital to achieving the mission of the HEI. 				

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
	Poland		Europe	
	HEI	7.6	HEI	8.5
<ul style="list-style-type: none"> • UBC increases skills and graduate development 				

Benefits for business and society	Extent of importance (1-10)		Extent of importance (1-10)	
	Poland		Europe	
	HEI	6.3	HEI	7.3
<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 				

Benefits from cooperation – Poland vs. Europe

As answered by HEI management



Students get the most benefit from UBC say HEIs (see table previous page and graph above)

HEI management in Poland perceive most benefits from UBC to be of a medium extent, with the 'benefits for students' ('UBC increases skills and graduates development') being perceived the highest. This is followed by the 'HEIs' ('UBC is vital to achieving the mission of the HEI'), 'businesses' ('UBC has beneficial effects on the local industry'), the 'region' ('UBC improves regional productivity') and 'society' ('local GDP and disposable income').

Lower benefit perceived from UBC for students and HEIs by Polish HEI management than in Europe (see table previous page and graph above)

Comparing the results to the European average it can be stated that Polish HEI management (as well as the academics) see significantly lower benefits for all

stakeholders from UBC than in Europe. Whereas the order of importance remained the same, the level of the perceived benefits is significantly lower, with the largest difference being amongst the 'benefits for business and society'.

Primary benefits of UBC identified by Polish HEI management

1. UBC increases skills and graduate development
2. UBC is vital to achieving the mission of the university
3. UBC has beneficial effect on the local industry
4. UBC improves regional productivity
5. UBC increases local GDP and disposable income

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



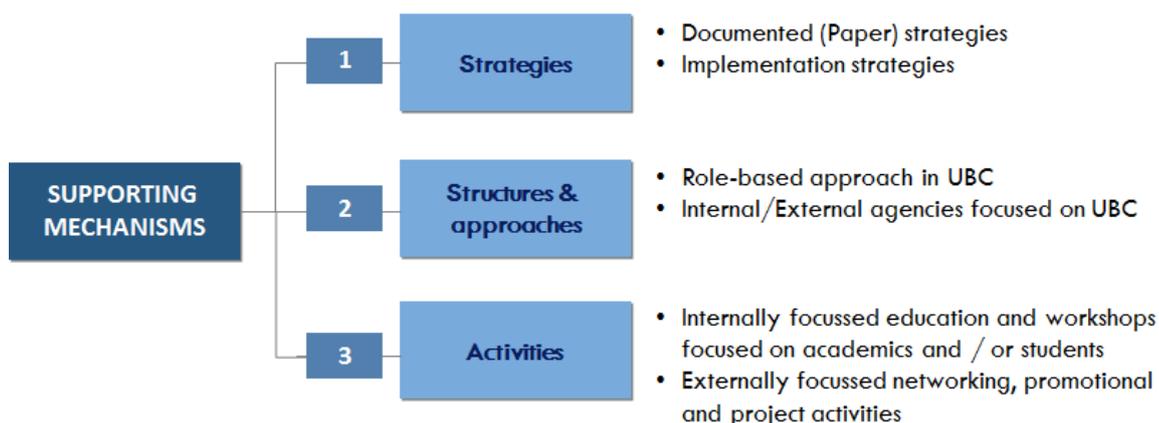
...your university!

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 Poland. 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 Poland

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) – Poland vs. Europe

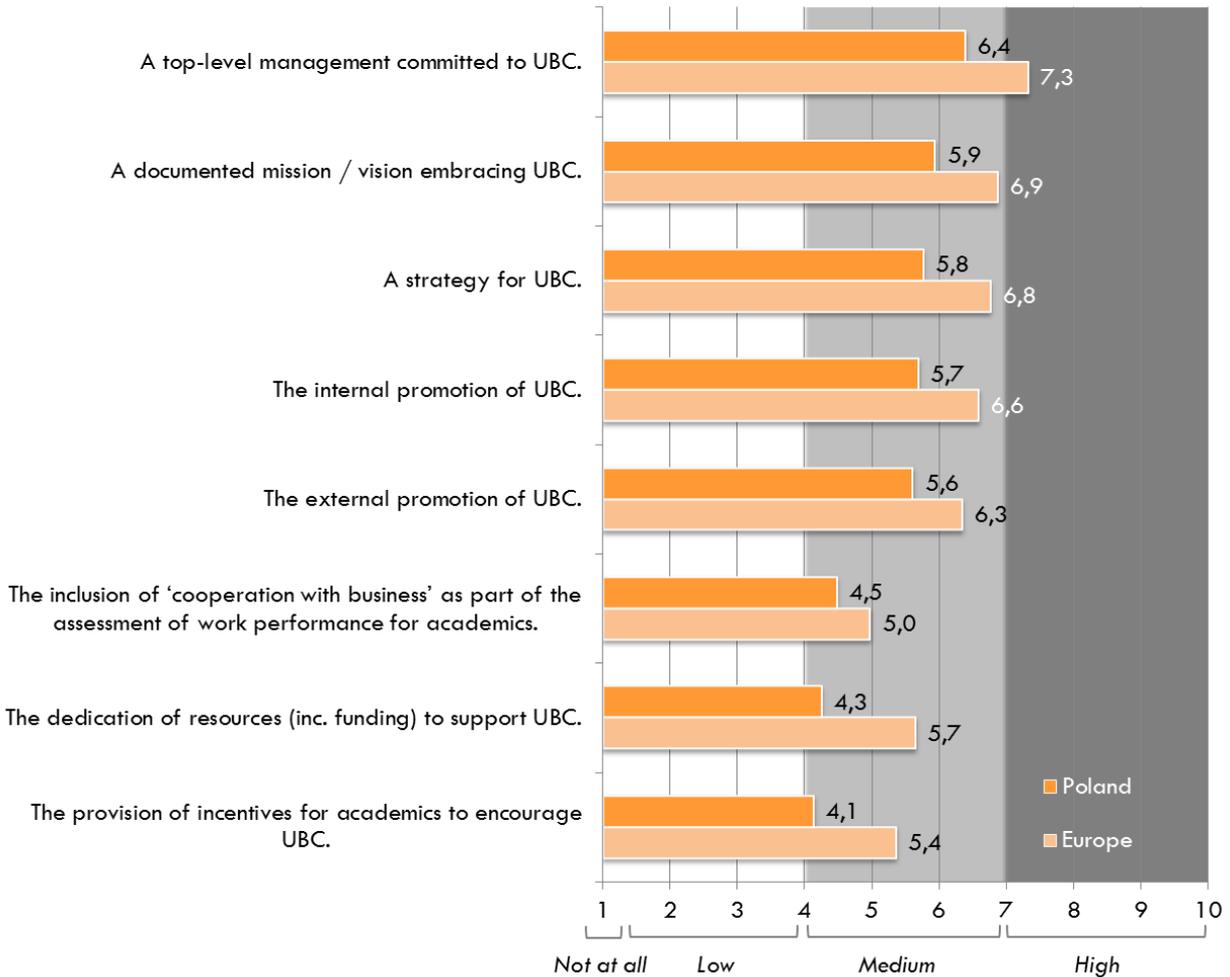
As answered by HEI management

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

Implementation and motivation strategies	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI	4.3	HEI	5.4
<ul style="list-style-type: none"> • The dedication of resources (incl. funding) to support UBC, • The provision of incentives for academics to encourage UBC, • The inclusion of 'cooperation with business' as part of the assessment of work performance for academics. 				

Development of UBC strategies – Poland vs. Europe

As answered by HEI management



Documented (paper) strategies are the most developed strategies in Poland (see table on previous page)

The most developed UBC strategies in Poland, as reported by Polish HEI management, are 'a top-level management committed to UBC' (6.4), 'a documented mission / vision embracing UBC' (5.9) and 'a strategy for UBC' (5.8). On the other extreme, 'the provision of incentives for academics to encourage UBC' (4.1), 'the dedication of resources, incl. funding, to support UBC' (4.3) and 'the inclusion of cooperation with business as part of the assessment of work performance for academics' (4.5) are only developed to a lower degree (compared to other strategies).

strategies are lower developed in Poland than in Europe (see graph above)

When compared to the European average, Poland shows a lower extent of 'implementation and paper strategies', with the most items scoring at least a point lower. The most extreme differences are amongst the 'implementation and motivation strategies', with the largest gap found in 'the dedication of resources to support UBC' (4.3 compared to 5.7).

On a factored (grouped) level, 'documented strategies' are significantly more developed in Poland than 'implementation and motivation strategies' supporting UBC.

Moderately developed strategies	<ol style="list-style-type: none"> 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 5. The external promotion of UBC 6. The inclusion of 'cooperation with business' as part of the assessment of work performance for academics 7. The dedication of resources (incl. funding) to support UBC 8. The provision of incentives for academics to encourage UBC
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Structures and approaches for UBC in Poland

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) – Poland vs. Europe

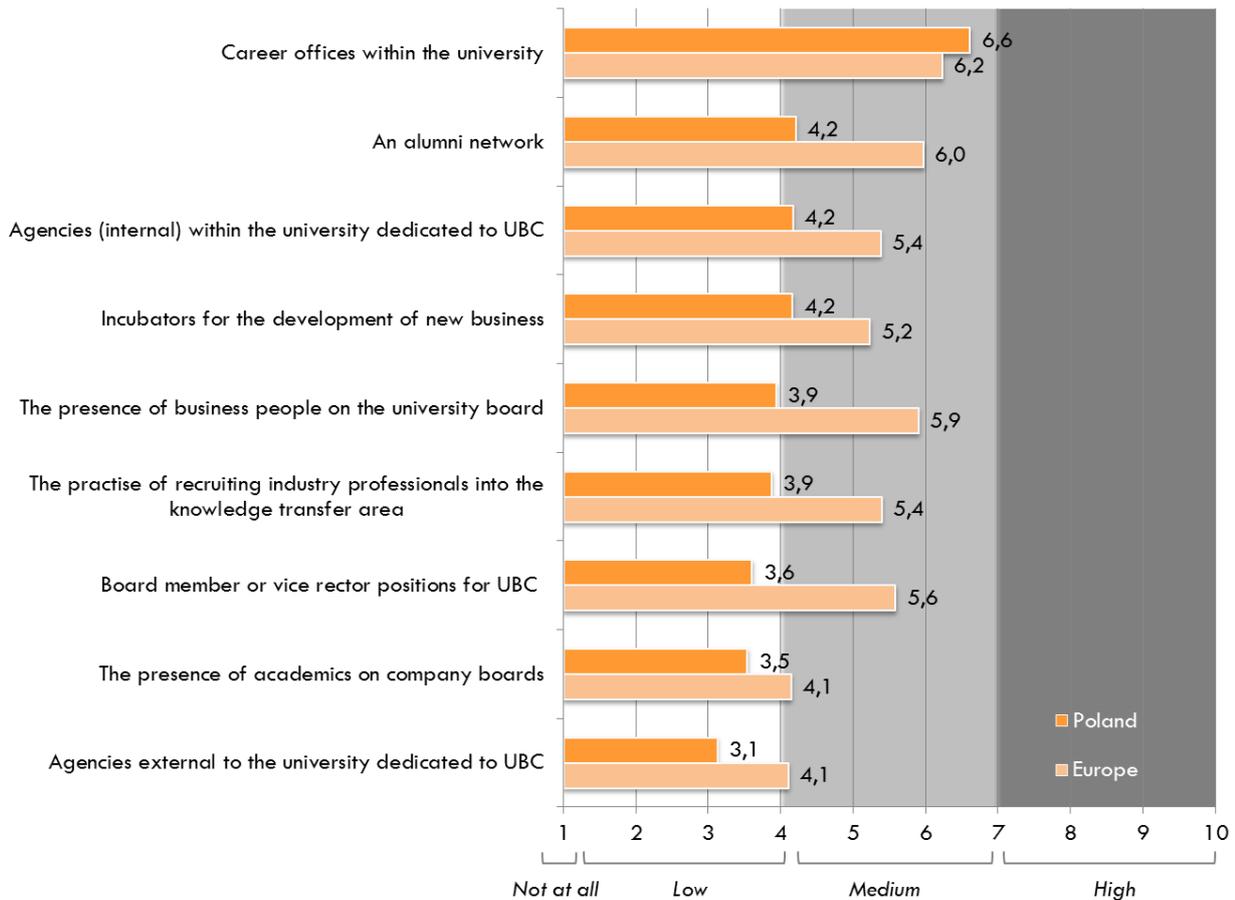
As answered by HEI management

Roles-based approaches in UBC	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI		HEI	
<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. 	HEI	3.8	HEI	5.4

Internal/External agencies focused on UBC	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI		HEI	
<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. 	HEI	4.6	HEI	5.3

Development of UBC structures and approaches –Poland vs. Europe

As answered by HEI management



Most structures and approaches are of low extent of development in Poland (see table previous page)

The extent of development of the structures and approaches for UBC in Poland shows that 'internal/external agencies focused on UBC' are more developed than 'role-based approaches in UBC' (4.6 compared to 3.8). This is supported by the result shown in the graph above where the 'role-based approach' is evident through the development of 'career offices' (6.6), 'agencies within the university dedicated to UBC' (4.2) and 'incubators for the development of new businesses' (4.2).

However, with the exception of the career offices, most types of structures and approaches are of a low extent of development.

Low development of structures and approaches compared to Europe

With the exception of the career offices (6.6 compared to 6.2), all types of structures and approaches are significantly lower developed in Poland compared to Europe. On a factored level the 'role-based approaches in UBC' and the 'internal/external agencies focused on UBC' show a far lower extent of development in Poland compared to the European average (3.8 to 5.4 and 4.6 to 5.3).

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

Operational activities for UBC in Poland

Operational activities are actions of a practical and immediate nature undertaken by actors within HEIs, governments, regional agencies and businesses 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*

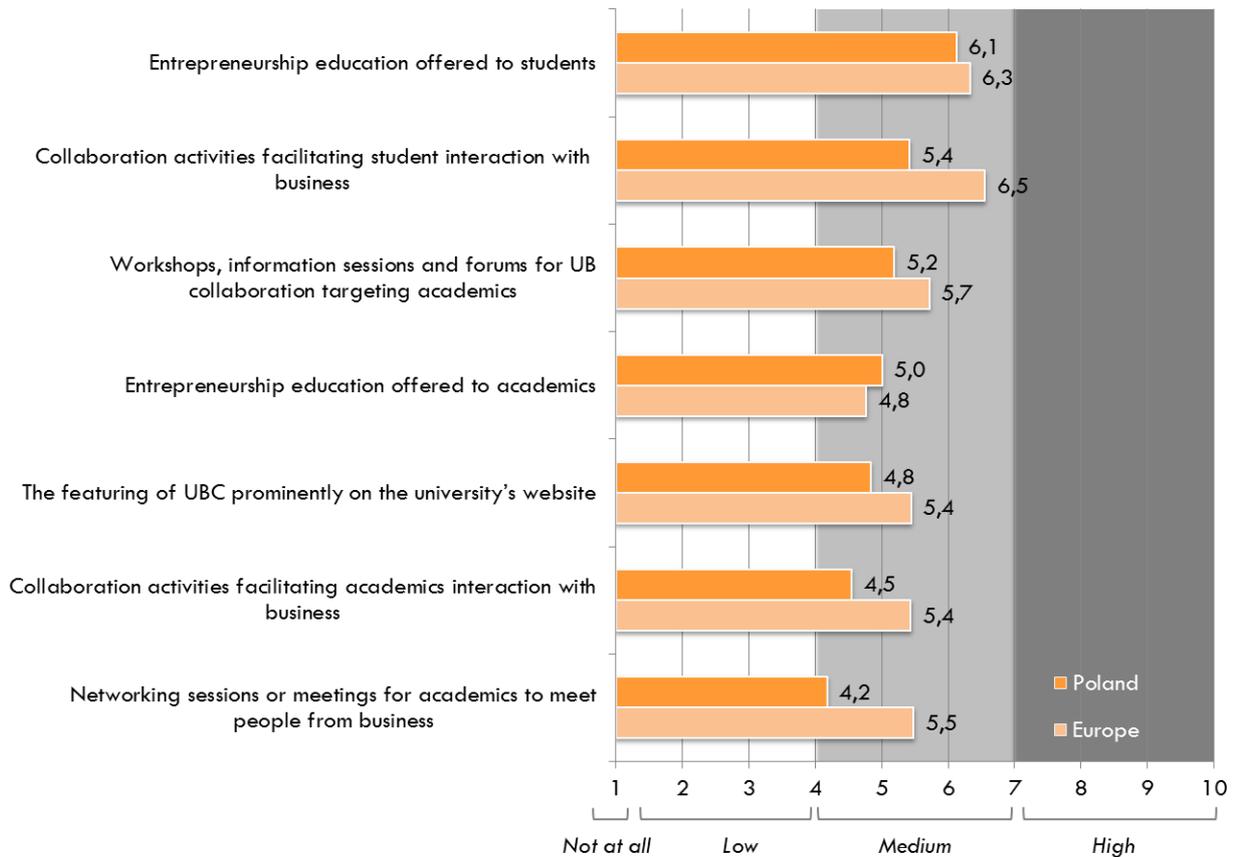
Development of UBC operational activities (grouped) – Poland vs. Europe

As answered by HEI management

Internally focused education and workshops focused on <u>academics</u> <ul style="list-style-type: none"> • Workshops, information sessions and forums for UBC targeting academics, • Entrepreneurship education offered to academics. 	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI	5.1	HEI	5.3
Internally focused education and workshops focused on <u>students</u> <ul style="list-style-type: none"> • Entrepreneurship education offered to students. 	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI	6.1	HEI	6.3
Externally focused networking, promotional and project activities <ul style="list-style-type: none"> • Networking sessions or meetings for academics to meet people from business, • The featuring of UBC prominently on the HEI's website, • Collaboration activities facilitating student interaction with business, • Collaboration activities facilitating academics interaction with business. 	Extent of development (1-10)		Extent of development (1-10)	
	Poland		Europe	
	HEI	4.9	HEI	5.7

Development of UBC operational activities – Poland vs. Europe

As answered by HEI management



Students are the focus of UBC activities in Poland (see graph this page)

The most developed activity in Poland, (1) 'entrepreneurship education offered to students' (6.1), and (2) 'collaboration activities facilitating student interaction with business', are both at a medium extent of development, however both are lagging behind Europe. With the least developed types being 'networking session or meetings for academics to meeting people from business' (4.2), 'collaboration activities facilitating academics interaction with business' (4.5) and 'the featuring of UBC prominently on the university's website' (4.8).

Minor difference in the development of UBC activities compared to Europe (see table previous page)

On a factored (grouped) level, it can be summarised that Poland is slightly lower developed than the European average with respect to all factors, whilst the largest difference is in respect to the 'externally focused networking, promotional and project activities' (4.9 compared to 5.7). In general the Operational activities in Poland are lower developed, with the exception of 'entrepreneurship education offered to academics'.

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

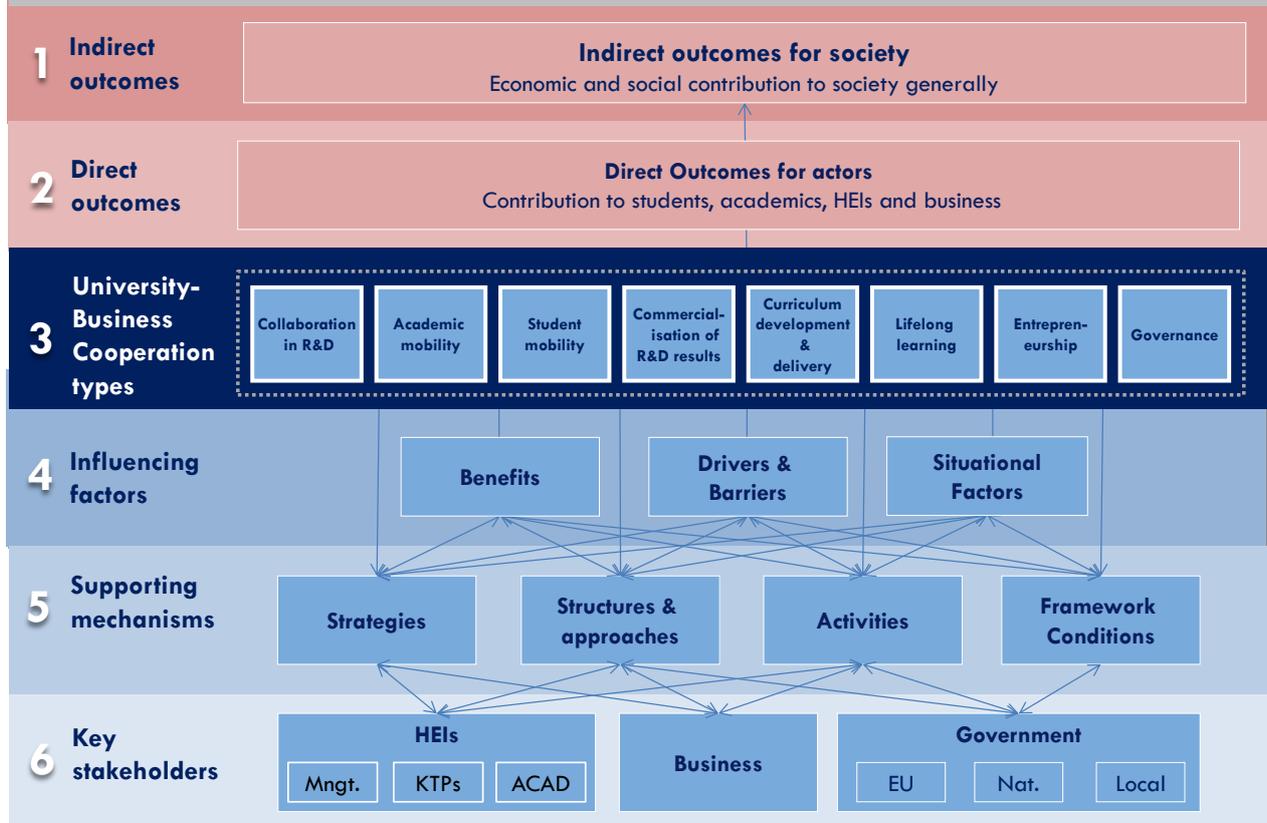
Are you...?

- ...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.

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