

State of University- Business Cooperation SWEDEN

Business Perspective

Study on the cooperation between
higher education institutions and
public and private organisations



The State of Sweden University-Business Cooperation: the business perspective

Partners



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Executive summary

Summary

This report aims at contributing to our understanding of the business perspective on university-business cooperation (UBC) in Sweden. Examining the perceptions of a wide range of businesses provides positive signs for the future, with 99% of Swedish businesses that already established relationships with universities planning to maintain or increase their cooperation in the future. Yet, more can be done, for example in supporting businesses with the development of strategies that can support their cooperation efforts in education and training and the creation of incentives and rewards system.

About the study

The results presented in this report reflect the perceptions of business representatives in Sweden with respect to cooperation between universities and business. Data was collected by means of an online survey sent out via email to a European business database that was developed from publicly available information for 33 countries during October-November 2016, leading to a total of 145 Swedish business responses. The study measured the perceptions of respondents with respect to their businesses and cooperation efforts.

University-Business Cooperation

Swedish businesses engage mostly in research related cooperation, with collaboration in R&D and consulting being the most developed UBC activities.

Regarding education activities, mobility of students is the most developed one and curriculum co-design is particularly low.

Valorisation and management activities are also less developed as more than 40% of businesses in Sweden not undertaking any of them, with the exception of commercialisation of R&D results, where 35% of the respondents report a medium to high level of development.

Swedish businesses perceive themselves as the main actors reaching out for collaboration. In the same way, they also see individual academics and university alumni as proactive initiators of UBC.

On the contrary, Swedish business representatives identify internal intermediaries as well as university management as those stakeholders that less often initiate UBC.

Financial and cultural barriers

The strongest barrier identified by respondents relate to the lack of government funding.

Swedish businesses also point out the university's lack of people with business knowledge and the differing motivations as well as time horizons between universities and businesses as factors hindering UBC. However, business respondents recognise that the lack of their own funding for UBC represents a significant barrier.

NOTE: This report provides a business on university-business cooperation UBC, drawing on a survey of European higher education institutions, academics and businesses. While acknowledging limitations relating to the generalisability of the results due to the non-random nature of the sample, the results provide positive signs both of the present and for the future, while also providing an indication as to areas that require future development.

Executive summary

Relationships matter

While funding to undertake cooperation is indicated as the top five facilitators for Swedish UBC, factors related to the individual relationships emerge to be essential. It is the existence of trust, commitment, a shared goal and prior relation with the university partner that facilitate cooperation for businesses in Sweden. These results indicate that any effort towards enabling cooperation between businesses and universities should focus on relationship development as a basis for successful collaboration.

Driven by competitiveness

When engaging in cooperation with HEIs, Swedish businesses are driven by innovation and competitiveness related motivations. Getting access to new technologies, knowledge and discoveries at an early stage, obtaining funding, accessing better qualified graduates and enhancing their innovation capacity are those motivators that stimulate cooperation for Swedish companies. Notably, the willingness to impact society through collaboration is not considered as a motivation.

Strategy first

Strong emphasis has been placed on the development of UBC supporting mechanisms by universities, and yet little is known about such mechanisms in the business realm. This study indicates that the strategies are those mechanisms that have the highest development, with over a third of the of respondents indicating a top-level

management committed to cooperation, the dedication of resources to support UBC and the existence a strategy for collaborating with HEIs. However, the practice of recruiting PhD students and scientists into businesses is reported as the most developed mechanism, present in 39% of the responding businesses.

Notably, the existence of an executive responsible for UBC within the business is significantly higher in Europe than in Sweden. And the most underdeveloped supporting UBC mechanisms in Sweden include academic-idea competitions, recognition for UBC activities and filling of Professor positions within a university.

Room for improvement in education activities

Swedish businesses perceive themselves to be supportive towards UBC. They report having the capability to absorb knowledge and technology from universities and recognise the important role played by HEIs in their innovation efforts. They also consider that their business has a lot to offer to universities in terms of research.

Yet, Swedish businesses are less supportive towards UBC in education and find themselves least inclined towards taking the responsibility to collaborate with universities in this field. Generally, they are significantly less satisfied with collaboration in education than in research.

Introduction

About the study

The study focusses on the cooperation between higher education institutions (HEIs) and public and private organisations in the 28 European Union Member States and 5 associated countries.

The State of European university-business cooperation (UBC) study is executed for the DG Education and Culture at the European Commission (EAC/10/2015) by a consortium led by the Science-to-Business Marketing Research Centre (S2BMRC), in Germany from January 2016 until November 2017.

The aim of the study is to get a more profound, comprehensive and up to date understanding of the state of UBC in Europe: what is the state of play of a wide range of UBC activities in the different countries, what are the main drivers and barriers for the different stakeholders and at what levels; what is the regulatory framework and socio-economic conditions and what kind of measures/initiatives exist on a national level to support the development of UBC. The project investigates UBC from the perspective of both university and business.

Main activities

The main components of the project were a series of expert interviews with 23 recognised UBC experts, 52 good practice case studies, a UBC policy and indicators review as well as a major quantitative survey of stakeholders within both HEIs and business. The survey was translated into 25 languages and sent to all registered European HEIs (numbering over 3,000) in the 33 countries during

October-November 2016. Through this, a final sample of 17,410 representatives from within HEIs and business was achieved. This makes the study the largest international study into cooperation between HEIs and business yet completed.

Why care about university-business cooperation?

- UBC is considered to be the engine towards knowledge-based societies and economies
- UBC is specially needed in the European context, threatened by increased global competition, with ongoing economic and social problems and high levels of youth unemployment
- UBC helps to create a more connected and functioning relationship between government, business and HEIs, which is at the core of EU funding schemes, such as Horizon 2020 and Erasmus+.
- UBC direct outcomes include:
 - improving the competitiveness of business,
 - increasing the relevance and innovativeness of research and teaching in HEIs,
 - improving the future job prospects of students and graduates,which can in the longer term:
 - create jobs,
 - stimulate economic growth,
 - increase living standards,
 - reduce hindrances to good living.

Study Objectives

The specific objectives for the study are:

- Chart the current state of play and provide an in-depth analysis of UBC in the countries covered by this study, from the HE and business perspectives
- Deliver 50 case studies of UBC (representative sample, balanced distribution among countries and organisations, balanced distribution of HEI and business led cases);
- Review indicators measuring UBC and propose possible scenarios for the implementations of UBC monitoring in Europe;
- Provide policy conclusions and recommendations for the furthering of UBC and the best approaches to take.



UNIVERSITY-BUSINESS
COOPERATION IN EUROPE

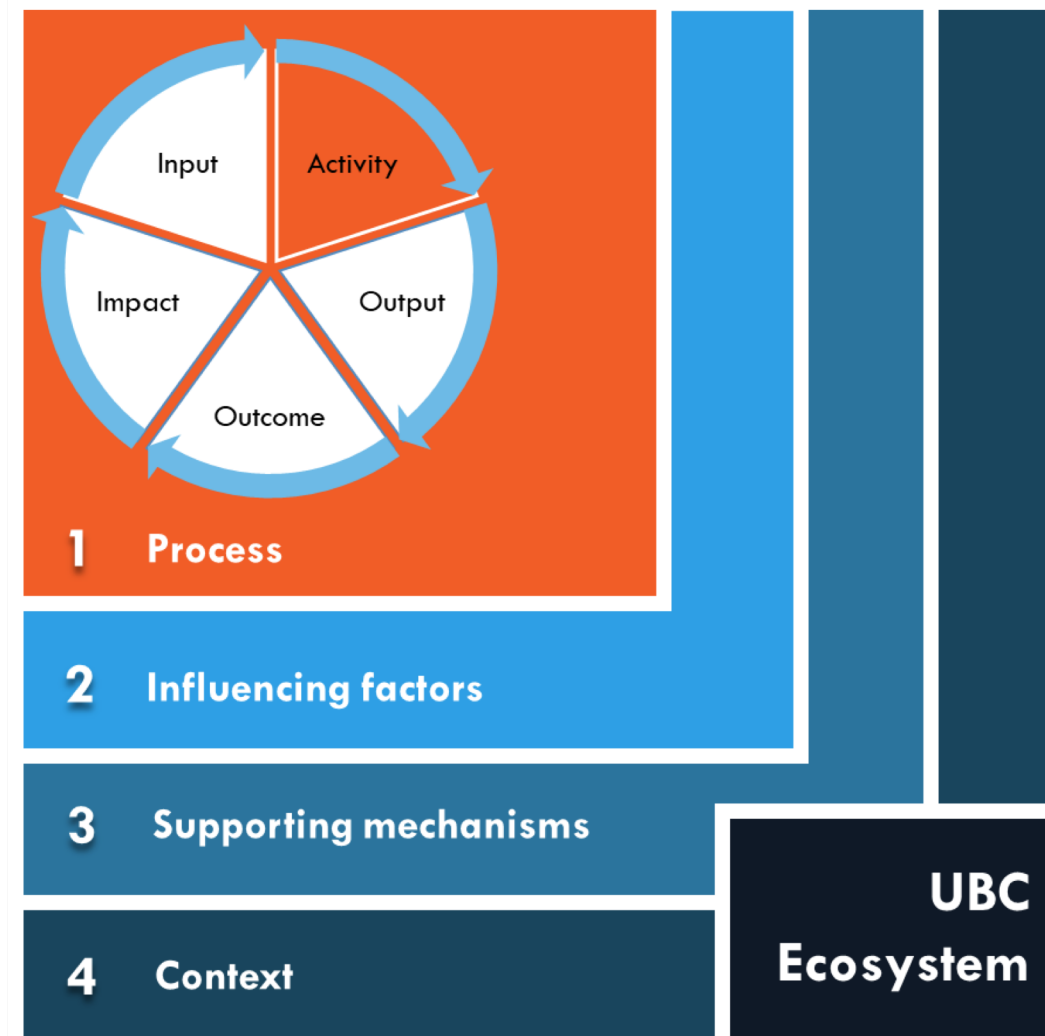
UBC activities

UBC Ecosystem Framework™

In order to best organise the project results, a project conceptual framework was chosen.

The UBC Ecosystem Framework possess a number of interrelated elements including the process of undertaking UBC, factors that are influencing UBC, mechanisms supporting UBC and finally the context in which UBC occurs.

The framework ties together the respective project activities, providing a common thread for reporting results and making recommendations.



Source: Galán-Muros, V.; Davey, T. (2017) *The UBC Ecosystem: Putting together a comprehensive framework for university-business cooperation*. *Journal of Technology Transfer*. <https://doi.org/10.1007/s10961-017-9562-3>

UBC activities

Fourteen UBC activities are recognised, commonly categorised into the areas of education, research, valorisation and management.

Area	Activities
Education	<ol style="list-style-type: none">1. curriculum co-<u>design</u>2. curriculum co-<u>delivery</u> (e.g. guest lectures)3. mobility of students (i.e. student internships/placements)4. dual education programmes (i.e. part theory, part practical)5. lifelong learning for people from business (e.g. executive education, industry training and professional courses)
Research	<ol style="list-style-type: none">6. joint R&D (incl. joint funded research)7. consulting to business (incl. contract research)8. mobility of professionals (i.e. temporary mobility of academics to business and vice versa)
Valorisation	<ol style="list-style-type: none">9. commercialisation of R&D results (e.g. licencing/patenting)10. academic entrepreneurship (e.g. spin offs)11. student entrepreneurship (e.g. start-ups)
Management	<ol style="list-style-type: none">12. governance (e.g. participation of academics on business boards and businesspeople participation in university board)13. shared resources (e.g. infrastructure, personnel, equipment)14. industry support (e.g. endowments, sponsorship and scholarships)

Development of UBC activities

Swedish businesses engage mostly in research UBC activities, such as joint R&D (6.2) and consulting (4.0). As for education related UBC, mobility of students (4.2) is developed the most.

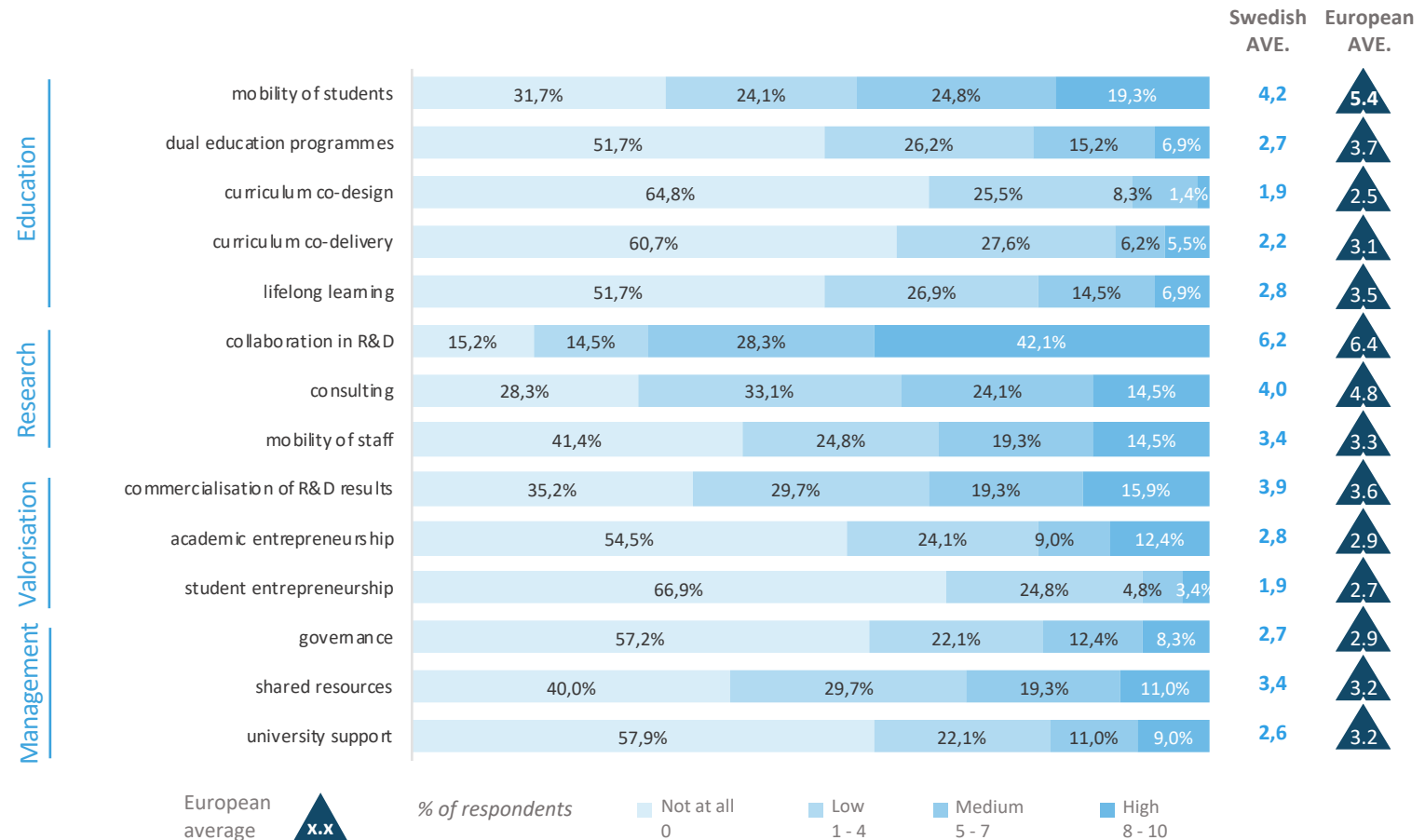
Over 50% of businesses do not undertake any management or valorisation related collaboration activities (with the exception of commercialisation of R&D results and shared resources that rate higher).

Collaboration in curriculum co-design and student entrepreneurship activities is of particular low intensity.

In comparison with European average, the development of the UBC activities for Swedish businesses is rather similar.

UBC activities development

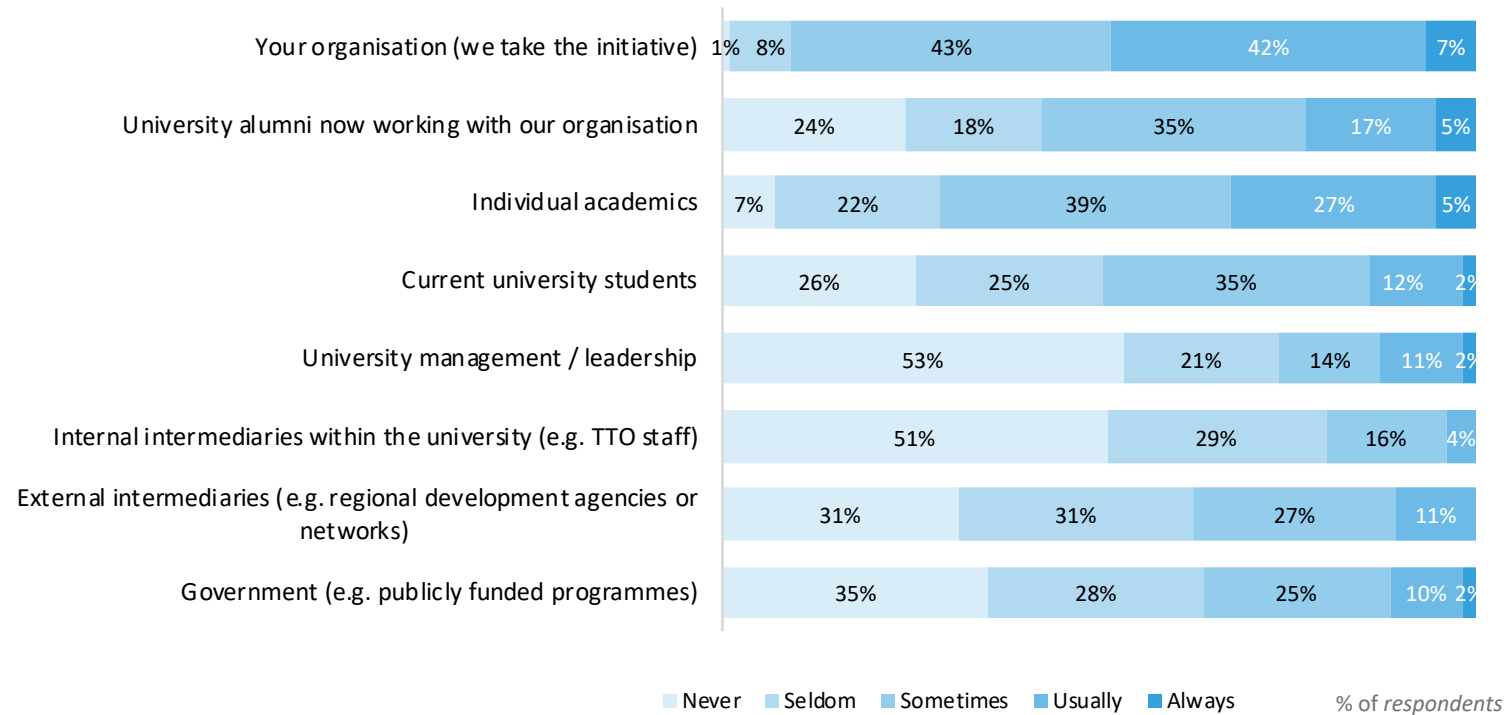
'Which UBC activities do you collaborate with universities in?'



Initiation of UBC

How UBC is initiated

'How often various stakeholders initiate UBC activities'



Swedish businesses clearly see themselves as the main initiators of cooperation with universities. 51% of business representatives state that their organisations always or usually initiate UBC.

Swedish businesses see the individual academics and university alumni now working with their organisations also as rather active in initiating cooperation.

Internal intermediaries within the universities and university managers are perceived as passive in UBC initiation. Over 75% of the business representatives report that the above mentioned stakeholders never or seldom undertake any first actions towards UBC initiation.

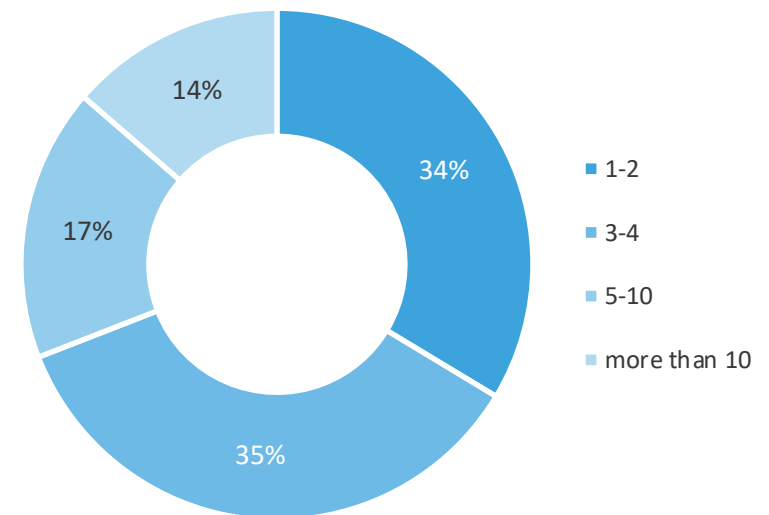
Geographical location still matters

Location of university partners

Percentage of cooperating businesses with...	
universities in their region	97%
universities in their country	96%
universities outside their country	81%

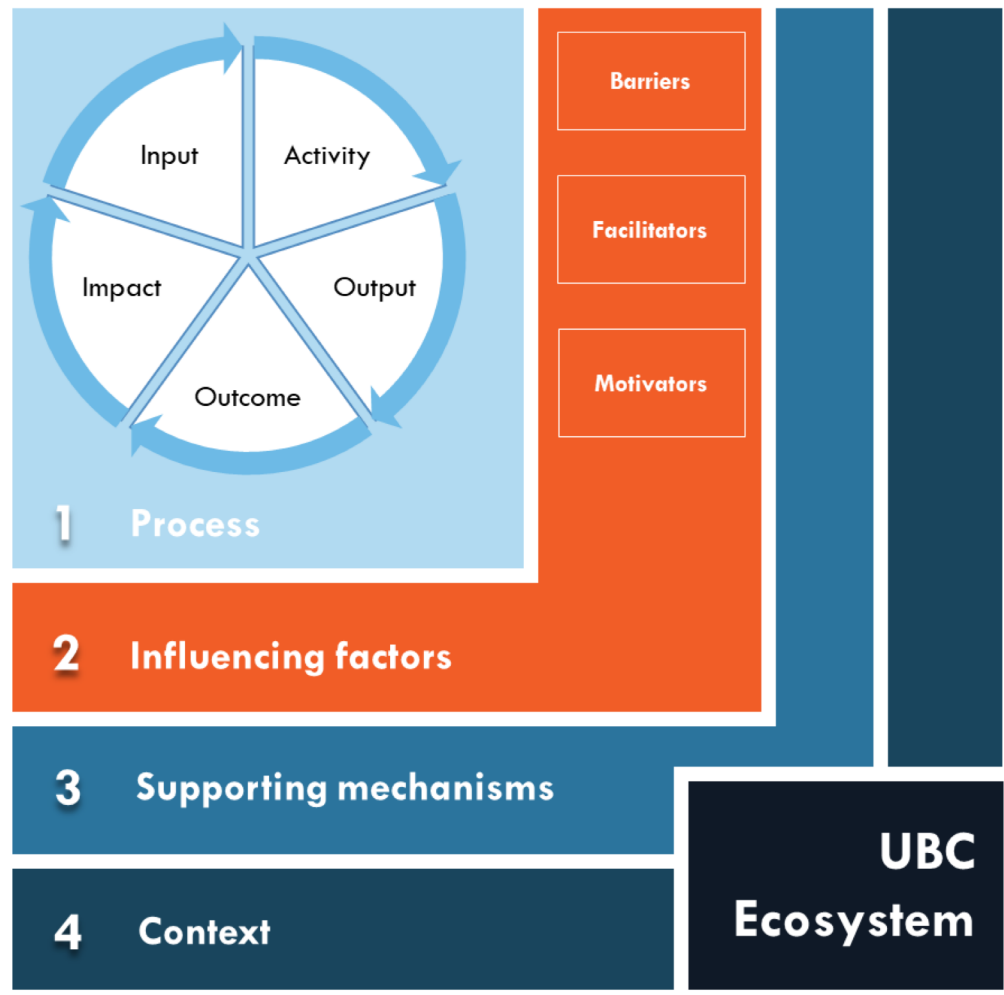
Most Swedish businesses cooperate with universities on a regional level (97%) and country-wide (96%). The results also indicate that as much as 81% of Swedish businesses engage in UBC with international university partners.

Number of university partners



Two thirds of the Swedish businesses (69%) in the sample cooperate with less than 4 university partners. While 17% have established relations with 5-10 partners, 17% of businesses engage in UBC with more than 10 universities.

Factors influencing UBC



This section outlines the extent to which various factors affect UBC.

Generally, a barrier provides a hindrance or obstacle to do something. Drivers comprise facilitators, which enable or ease the process, and the motivators, which triggers the starting of an activity and are often related to the expected outcome(s).

At the European level, this study has found that removing a barrier does not necessarily create UBC but rather it makes UBC possible. Instead, it is the facilitators and motivators (drivers) that initiate UBC.

For example, even when a lack of funds is often named as a major barrier to cooperation, the presence of funds may not be enough for cooperation to happen if the perceived facilitators or motivators are not sufficient.

Barriers hindering UBC

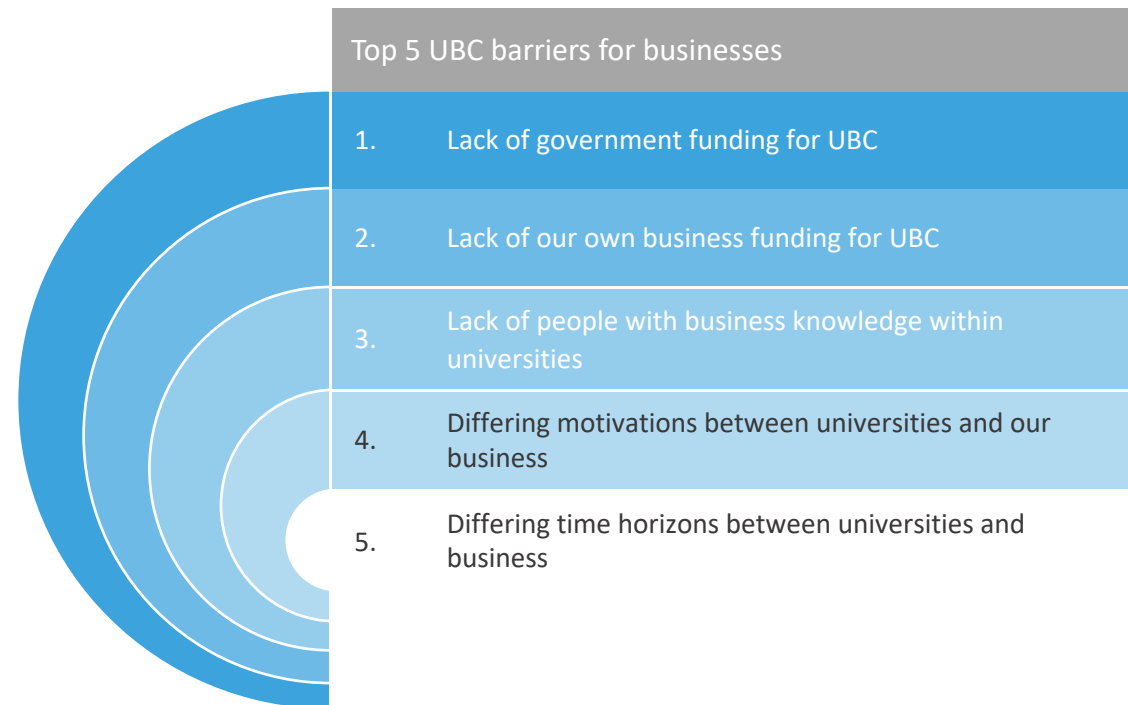
The major barriers for Swedish businesses relate to financial issues, such as lack of governmental or their own business funding.

Lack of people with business knowledge within university is also an important barrier to UBC for businesses in Sweden.

The cultural differences, such as differing motivations and time horizons between universities and businesses, are indicated as other noticeable barriers for UBC.

Barriers

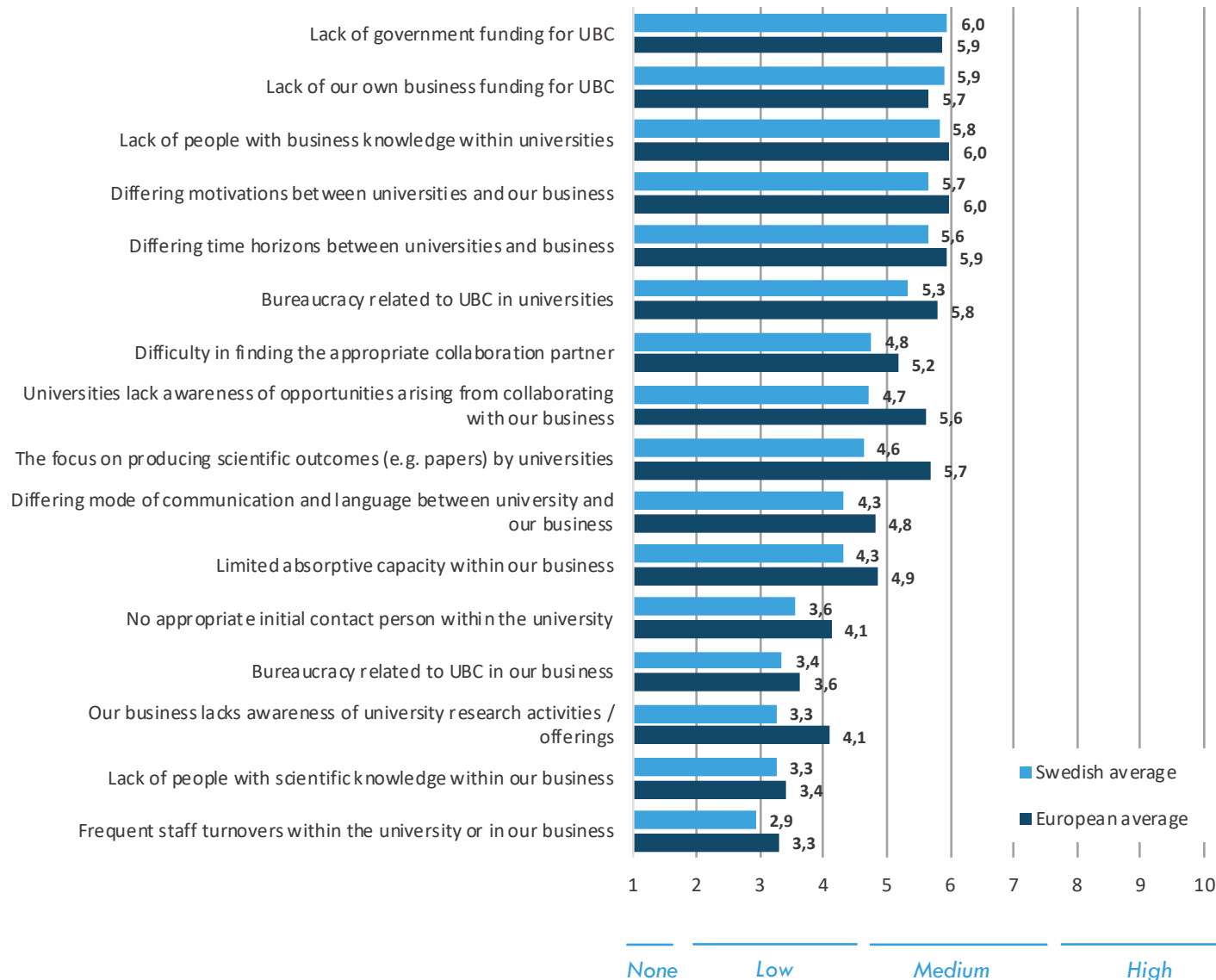
'What is inhibiting your cooperation with universities?'



Barriers hindering UBC

Barriers

'What is inhibiting your cooperation with universities?'



The majority of barriers perceived by Swedish businesses and their European counterparts are to some extent similar. However, Swedish businesses perceive most barriers to be lower.

Both groups see funding issues (e.g. lack of government and business funding) and cultural differences (differing motivations and time horizons) as top barriers to UBC. However, while funding issues seem the most inhibiting factors for Swedish businesses, their European counterparts rate the cultural differences the highest.

Swedish businesses also perceive universities' lack of awareness of the opportunities arising from UBC and universities' focus on producing scientific outcomes as much less pressing barriers than European average shows.

Lack of scientific knowledge within Swedish businesses and frequent staff turnover at either partner are the weakest barriers for both groups.

Drivers stimulating UBC

The major factors that facilitate Swedish business cooperation with universities are related to their personal relationship.

A relationship based on mutual trust, commitment, and a shared goal lies the foundation for smoother and more successful UBC. The existence of prior relations between partners is important in this process.

The role of funding to undertake UBC is also important for enabling collaborative activities.

Drivers are those factors that encourage businesses, academics or HEIs to engage in UBC. Drivers of UBC are divided into two factors:

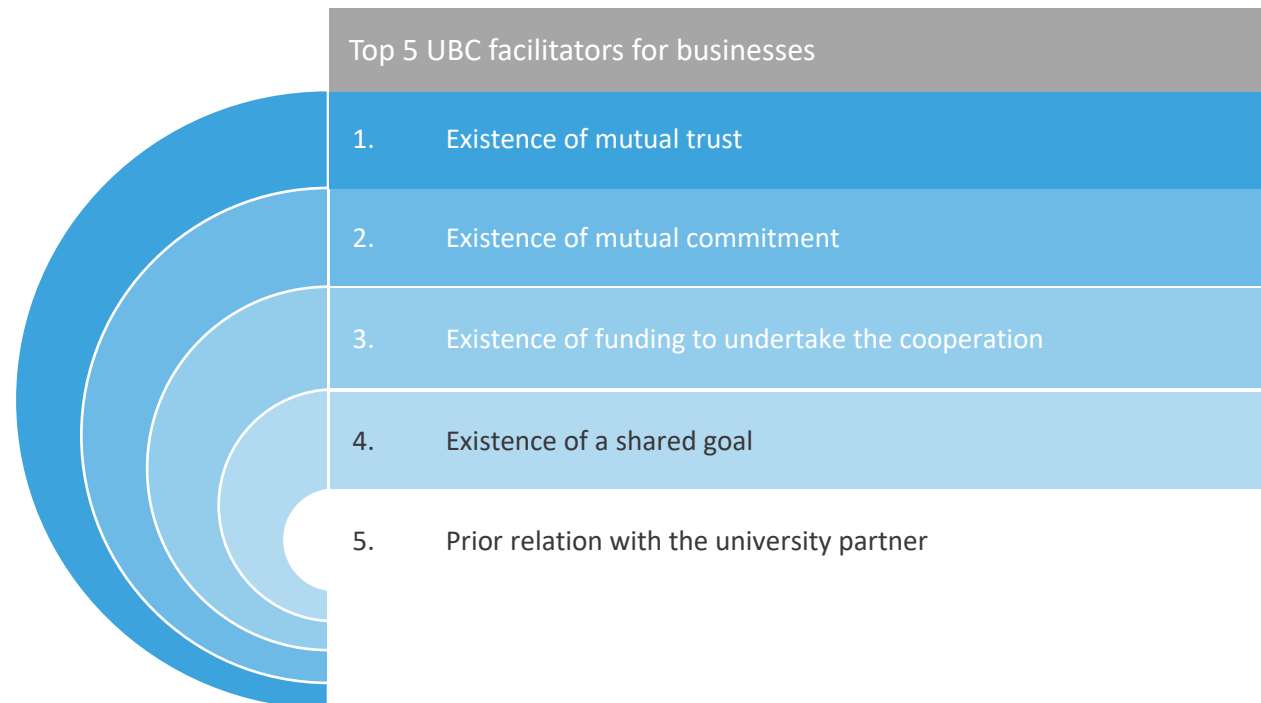
1. **Facilitators** – factors that enable or ease cooperation
2. **Motivators** – incentives or benefits that the respective stakeholders would like from the cooperation

Together, these two factors provide a comprehensive picture of what compels businesses to cooperate.

The 2010-11 State of European UBC study showed that for European universities the existence of strong UBC drivers can overcome the presence of barriers to UBC.

Facilitators enabling UBC

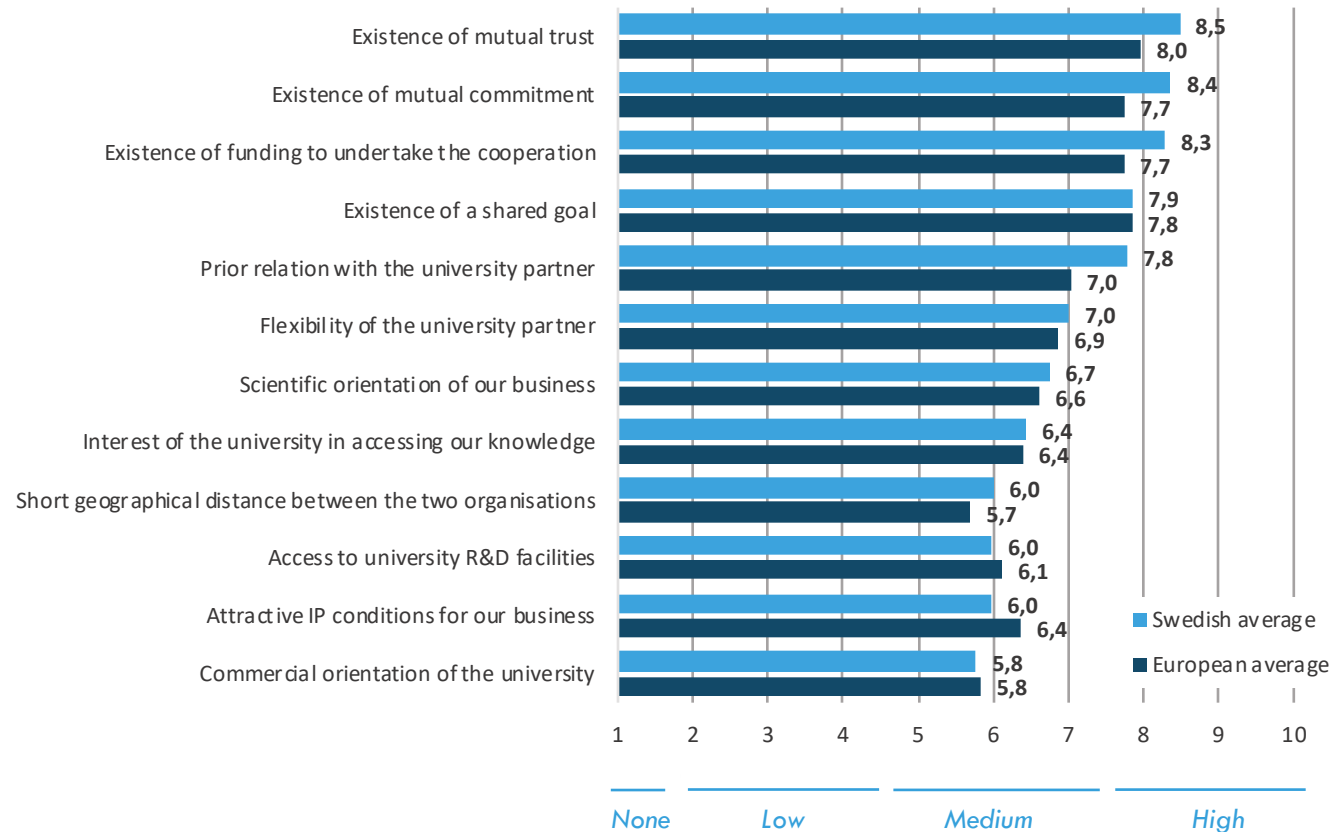
'What is facilitating your cooperation with universities?'



Drivers stimulating UBC

Facilitators

'What is facilitating your cooperation with universities?'



Swedish business representatives perceive most facilitators of UBC to be slightly higher than European average.

This is the case for those personal relationship facilitators and existence of funding to undertake UBC, which nonetheless rate the highest in both groups.

However, attractive IP conditions for businesses have noticeably less significance for Swedish businesses than for their European counterparts.

Both groups agree that commercial orientation of the university plays little role in stimulating UBC.

Drivers stimulating UBC

The main motivators for Swedish businesses to undertake UBC are related to the opportunity to access new knowledge/technologies and discoveries at an early stage.

Swedish businesses are also motivated to obtain financial resources and get access to better qualified graduates.

A less important but still relevant motivation to engage in UBC is to improve their innovation capacity.

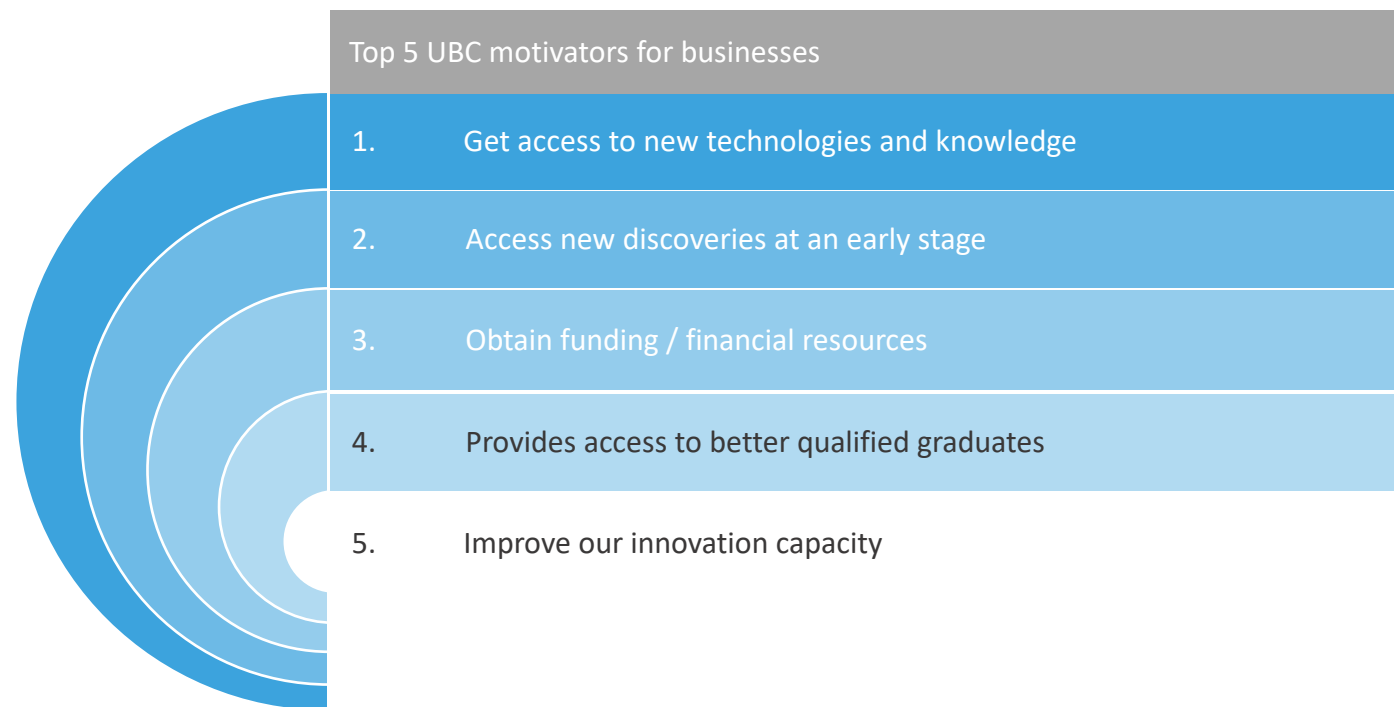
Motivations for UBC are the reasons why businesses collaborate with university.

They provide key information about the outcomes that the businesses seek from their collaborative activities relating to education, research, valorisation and management.

The ability of the collaboration to achieve these outcomes will have a substantial influence on the businesses' assessment of the success of their collaboration.

Motivators

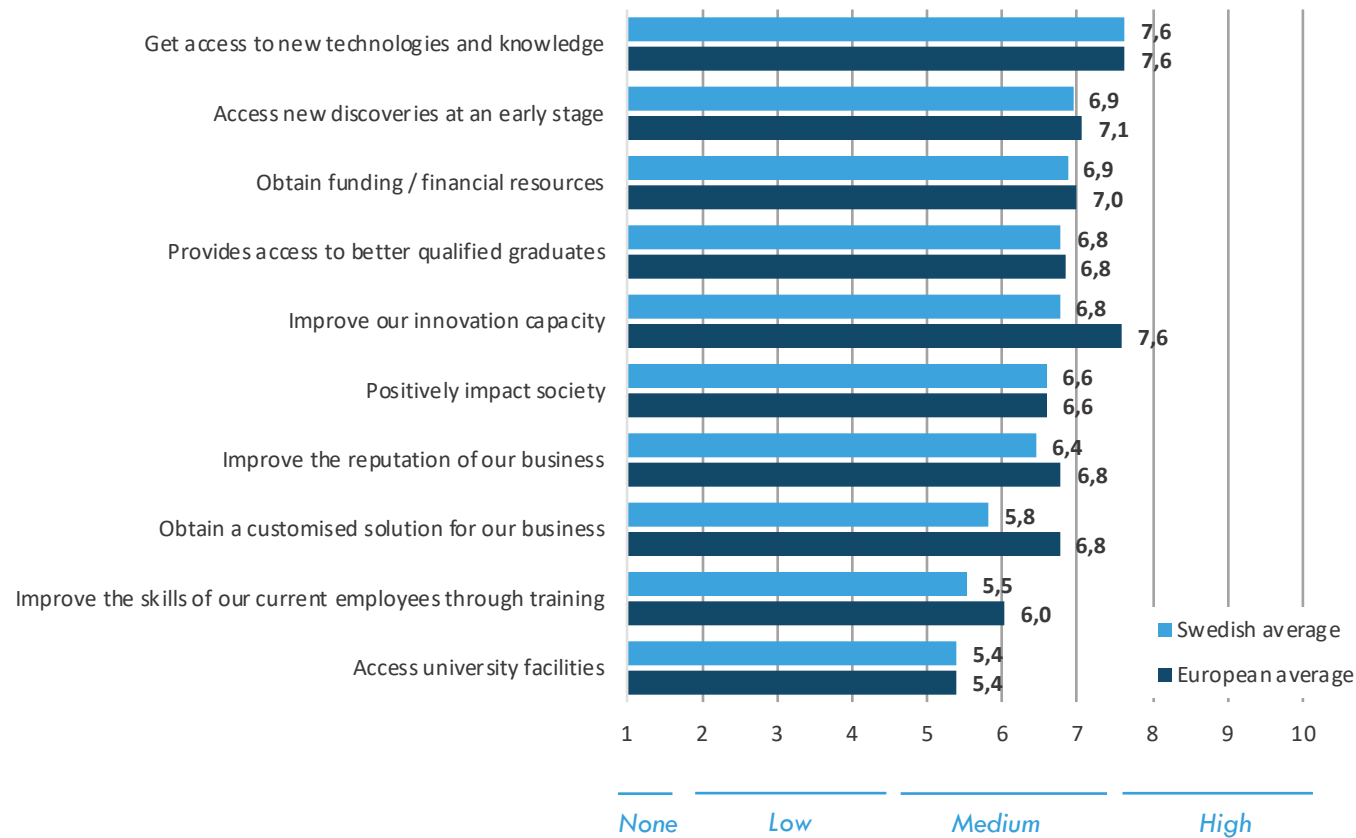
'What motivates you to cooperate with universities?'



Drivers stimulating UBC

Motivators

'What motivates you to cooperate with universities?'



Overall, Swedish businesses' motivation to engage in UBC is relatively similar to European average yet with some exceptions.

Both groups see the access to new technologies and knowledge as the top motivator to undertake UBC.

However, while European businesses are highly motivated to improve their innovation capacity through UBC, their Swedish counterparts are less interested in it.

Similarly, an opportunity to obtain customized solution for businesses and improve the skills of their current employees through training are much less important motivators among Swedish businesses.

Access to university facilities motivates both groups to cooperate with universities the least.

Benefits of UBC

Both Swedish and European businesses have rather similar perceptions in respect to which stakeholder groups benefit more or less from UBC.

Both groups see students and universities as primary beneficiaries of UBC.

Yet, while Swedish businesses see other stakeholders such as academics and society more profiting from UBC than themselves, European businesses hold an opposite view.

Both Swedish and European businesses consider government and public authorities as actors, that benefit from UBC the least.


Benefits are the perceived positive outcomes (financial and non-financial) from undertaking UBC as relevant for the different stakeholder groups that can potentially participate in UBC.

The perception regarding who benefits from such cooperation can influence the decision to increase or decrease their participation or

the involvement of other groups. For example, if academics perceive their own benefits to be low, they may refrain from engaging in UBC. Yet, if they perceive benefits for students to be high, they might undertake actions that contribute to students' involvement in UBC.

Benefits of UBC

'Who receives the benefits of UBC?'

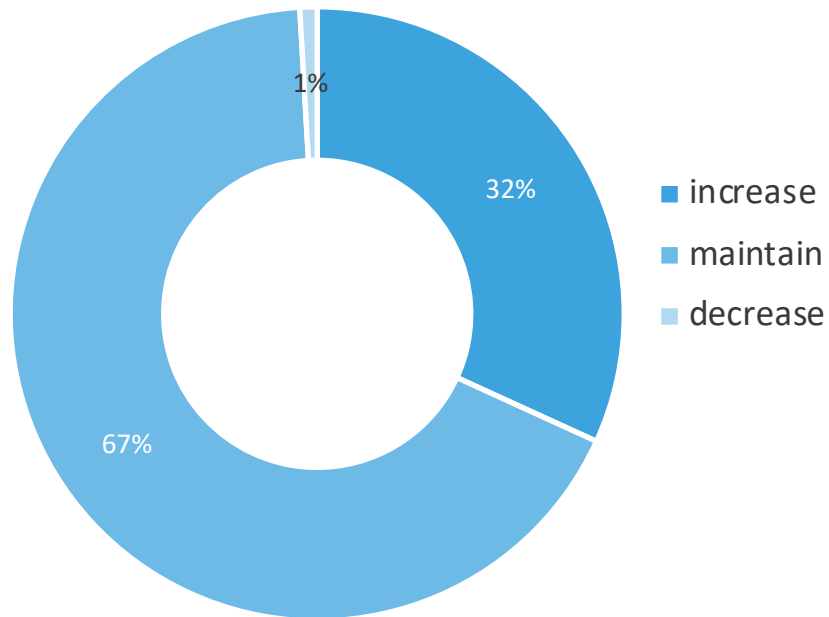


	Swedish businesses	European businesses
1.	Students	Students
2.	Universities	Universities
3.	Academics	Businesses
4.	Society	Academics
5.	Businesses	Society
6.	Government/public authorities	Government/ public authorities

Future intentions

Future UBC intentions – Sweden

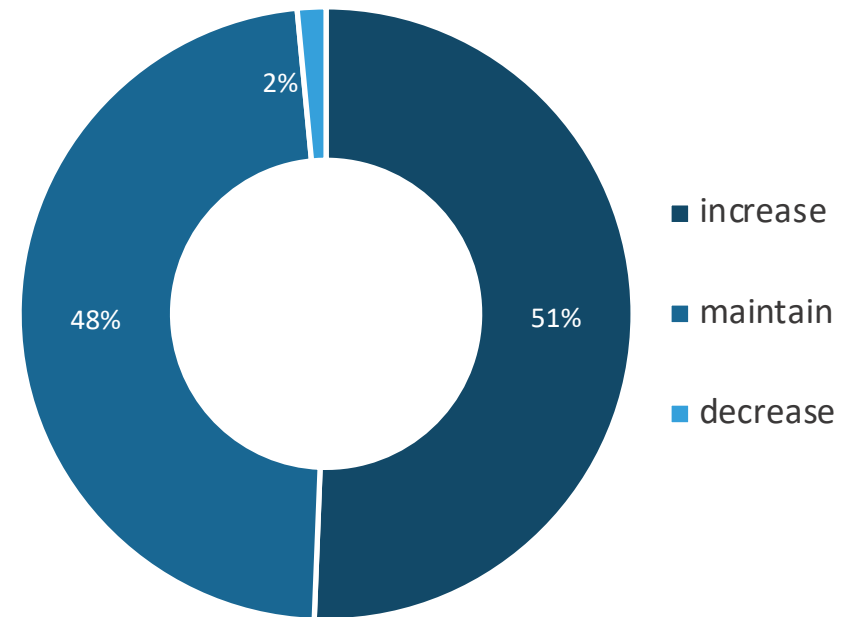
As answered by Swedish businesses



32% of Swedish businesses engaging in UBC plan to increase their cooperation, while 67% will maintain it. Only 1% of the respondents intend to reduce it.

Future UBC intentions – EUROPE

As answered by European businesses



European businesses seem to be even more confident in terms of their future intention towards UBC as it can be observed through a higher percentage of business respondents (51%) that plan to increase cooperation activities.

Willingness to recommend UBC

The willingness of Swedish cooperating businesses to recommend engaging in UBC varies depending on whether this cooperation is in research or in education.

Swedish businesses are equally satisfied with UBC in research as their European counterparts (NPS=30). While 46% of respondents will promote it positively, 16% will do it negatively.

Contrary, Swedish businesses are less satisfied with their cooperation in education (NPS=-3). It is consistent with European average.

Respondents were asked how likely it would be that they recommend to a business colleague to engage in UBC in the areas of R&D and

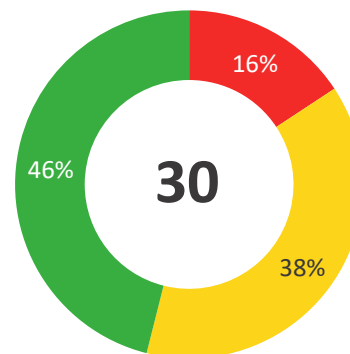
education and training (E&T). The *Net Promoter Score* metric offers a proxy for customer satisfaction.

Willingness to recommend cooperation with universities in R&D or E&T

	Detractors	Passives	Promoters	Net promotor score
Business cooperating with universities in R&D	15%	38%	46%	30
Business cooperating with universities in E&T	35%	32%	32%	-3

Satisfaction with cooperation with universities (net promoter score)

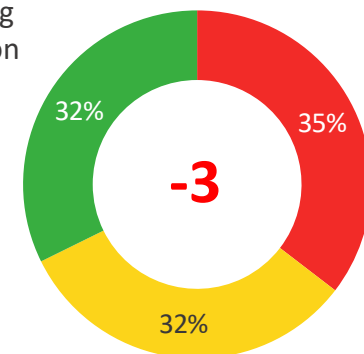
Business cooperating in research



■ Detractors ■ Passives ■ Promoters

European business NPS result: 28.2

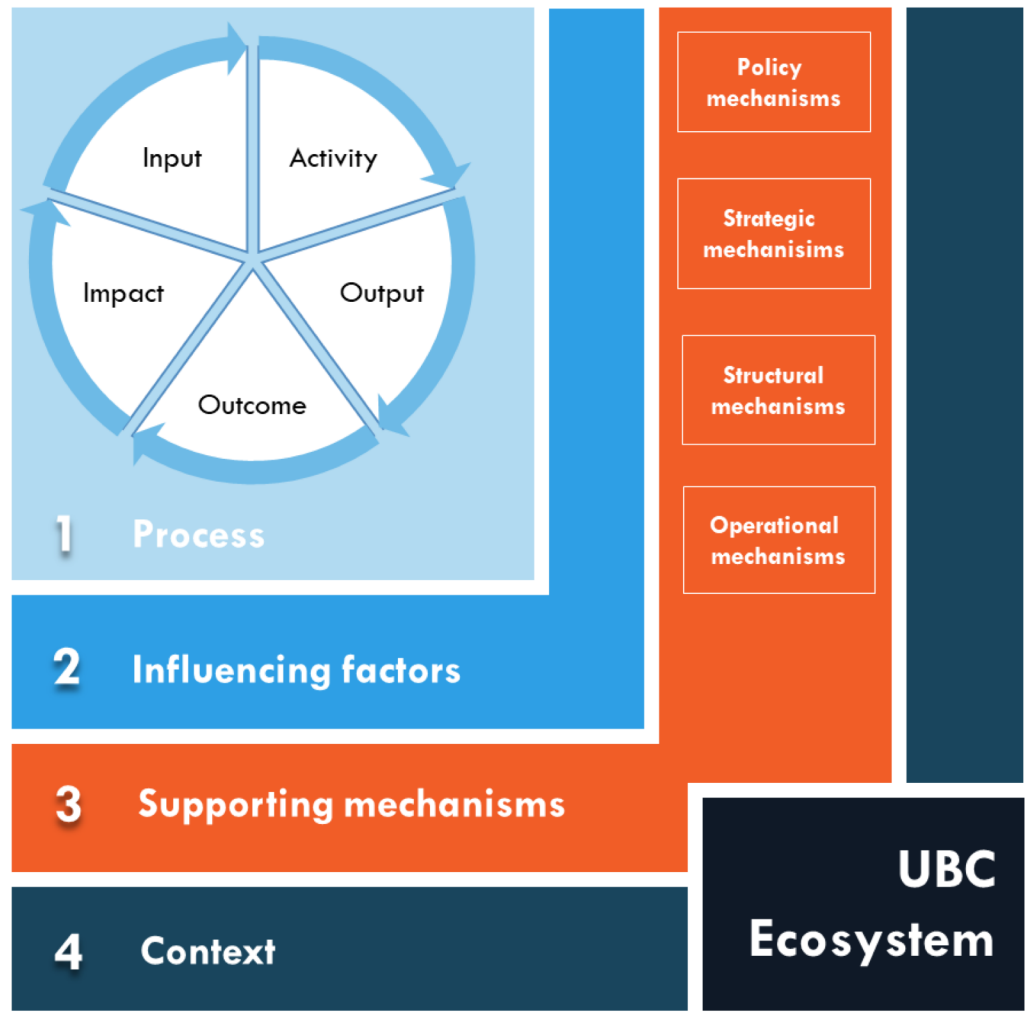
Business cooperating in education



■ Detractors ■ Passives ■ Promoters

European business NPS result: -2.1

Supporting mechanisms for UBC



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

There are four types of supporting mechanisms:

- Policy
- Strategic
- Structural
- Operational

This section outlines the extent to which UBC supporting mechanisms are developed in this sample from the HEI perspective.

At the European level, the extent of development of all these mechanisms significantly influences the extent of cooperation.

Supporting mechanisms for UBC

Overall, Swedish businesses report a low level of development of most mechanisms supporting UBC.

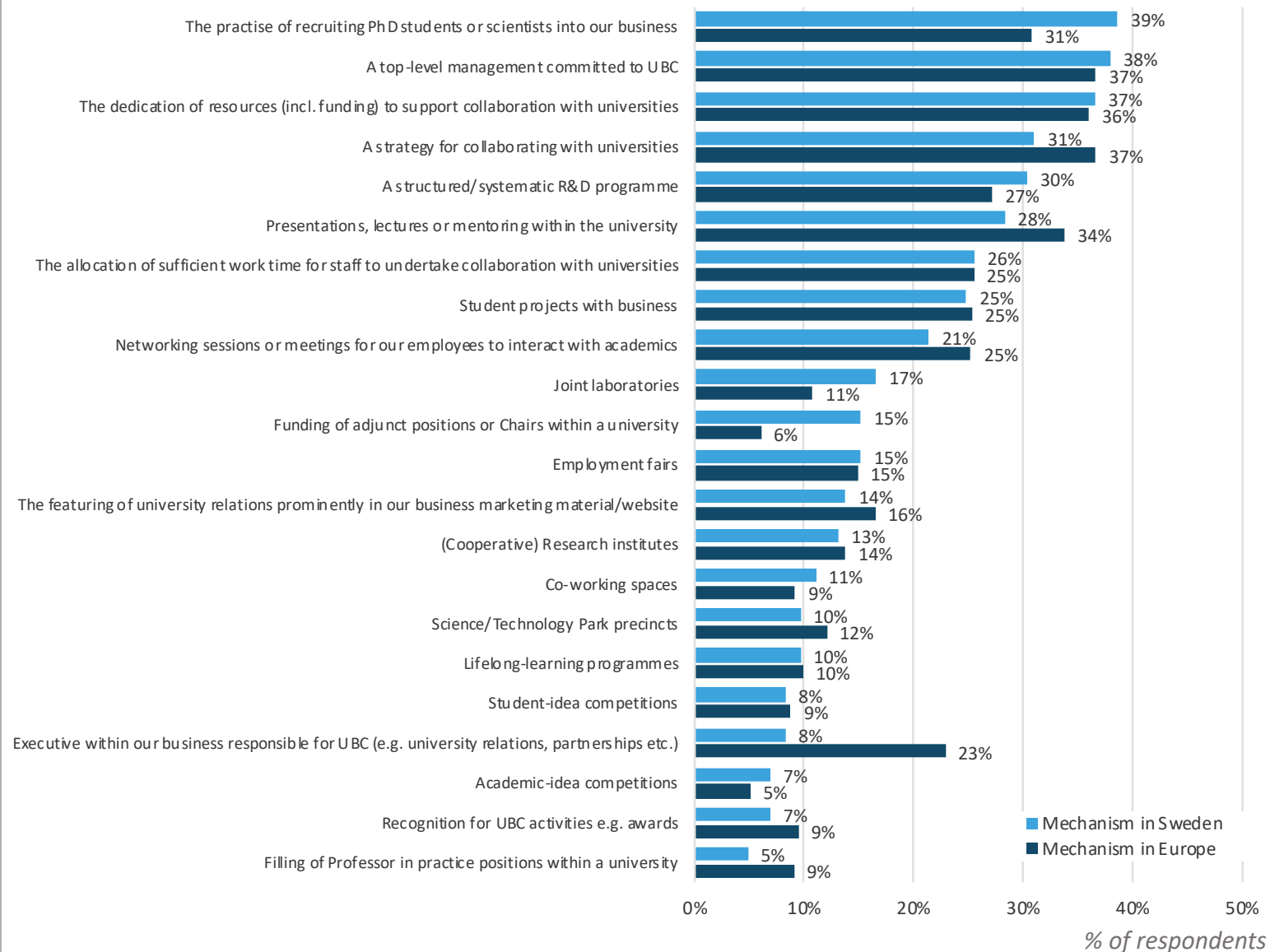
The most common ones are the practice of recruiting PhD students and scientists into businesses (39%), a top-level management committed to UBC (38%) and dedication of resources to UBC (37%). These supporting mechanisms are more commonly present in Swedish businesses than in European ones in general.

On contrary, UBC strategy, business presentations or mentoring activities at the university, and networking sessions between the partners are much less developed UBC supporting mechanisms in Sweden than in Europe on average.

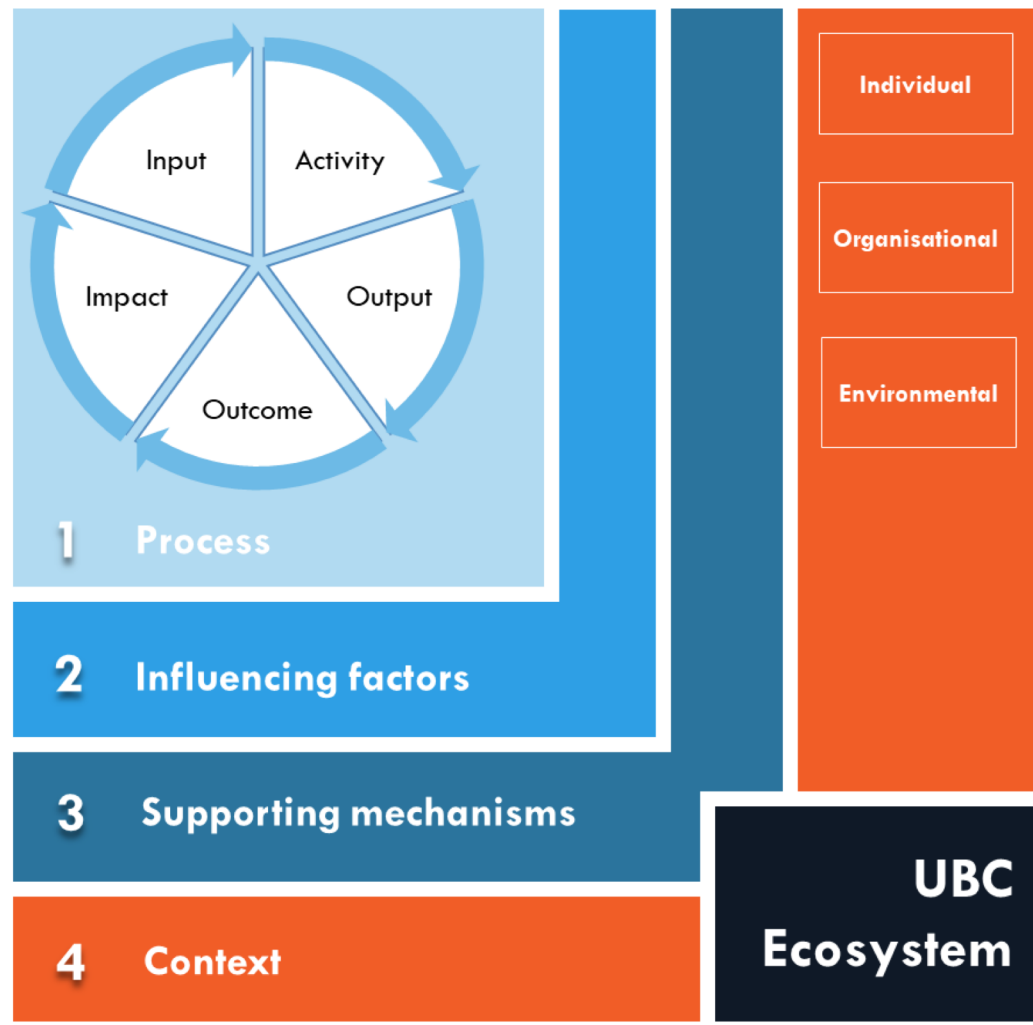
Recognition for UBC activities and professor in practice positions are the least developed supporting mechanisms for Swedish businesses.

Mechanisms supporting UBC

'Do these supporting mechanisms for UBC exist in your business?'



Context



The degree to which UBC takes place is influenced by a set of elements present in the context of the organisation that cannot be changed in short term.

These include the characteristics of individual actors involved, the institutional factors relating to the university and business, as well as by a set of broader environmental factors (political, economic, social, technological, etc.).

This section outlines how some contextual factors influence UBC in the country.

Context

Swedish businesses perceive the contextual factors affecting UBC rather differently from their European counterparts.

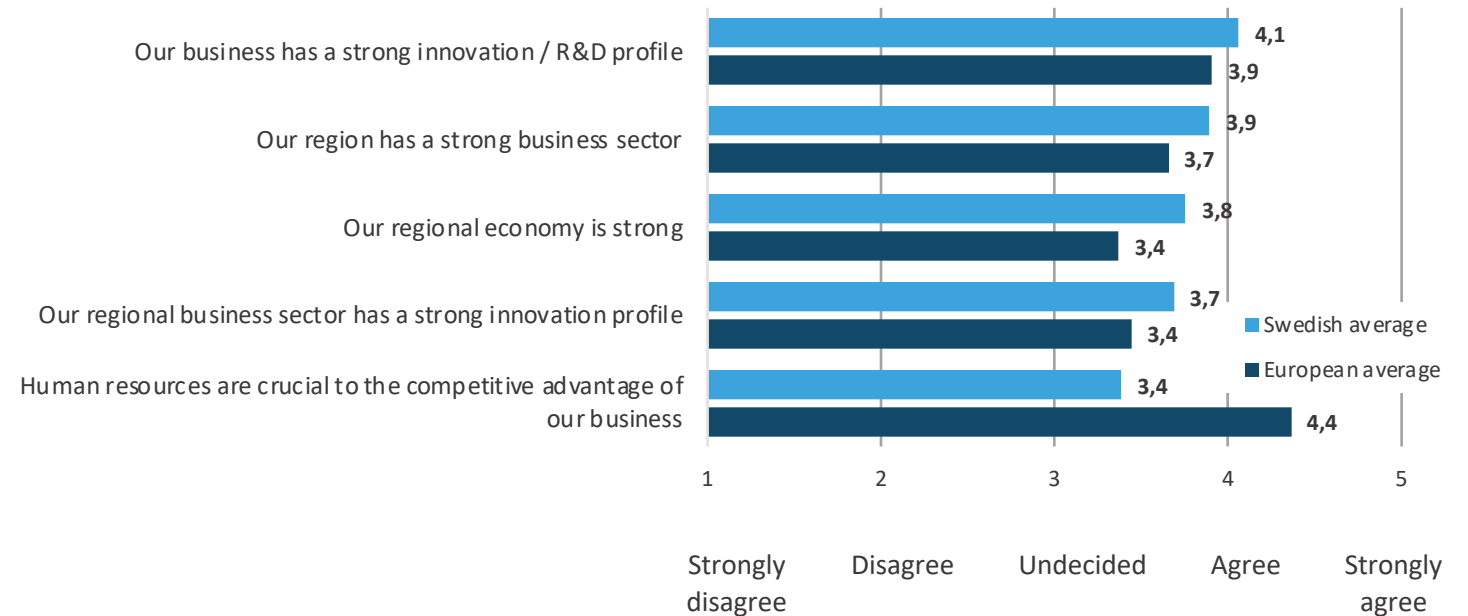
Swedish businesses agree that their businesses have strong innovation profiles.

Swedish rates are also in respect to the strength of their regional economy and regional business sector.

On contrary, while European businesses agree that human resources are crucial for the competitiveness of their businesses, Swedish ones rate this contextual factor the lowest.

Contextual factors affecting UBC

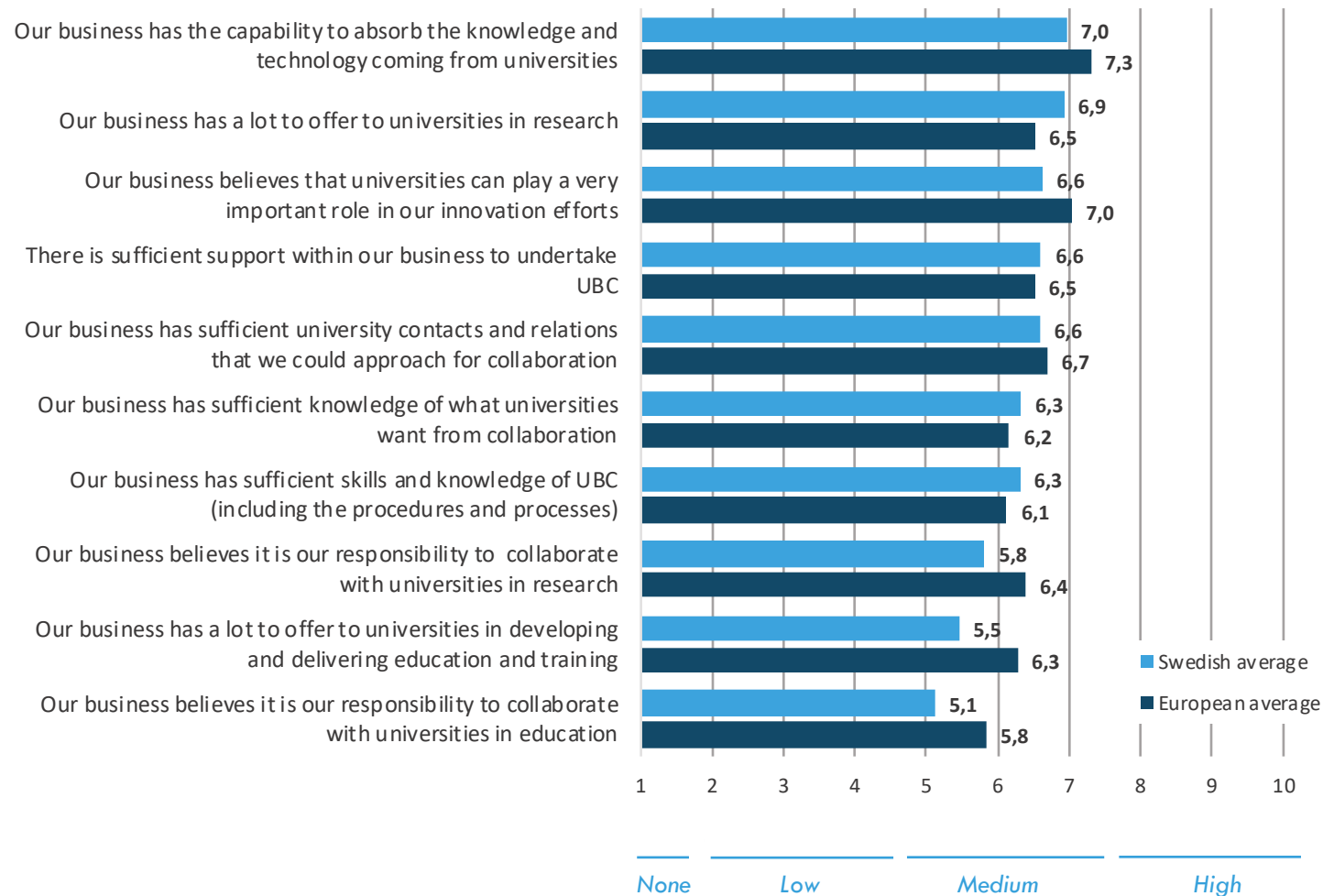
'To what extent do you agree with the following statements?'



UBC capabilities and beliefs

Supportive UBC environment

How supportive are your organisation and environment for UBC?'



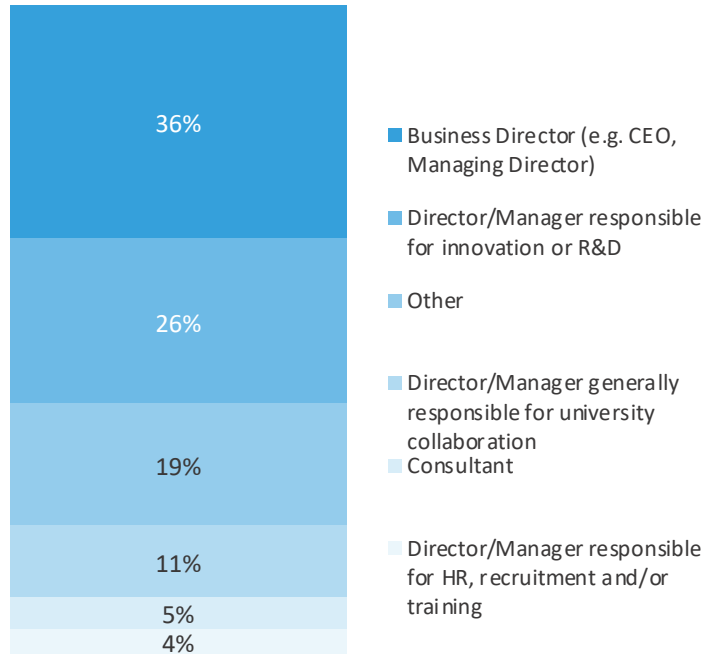
Swedish businesses perceive themselves as supportive towards cooperation with universities, but in most cases to a lower extent than European average.

Swedish business representatives recognize that their businesses can absorb the knowledge and technology coming from universities and have a lot to offer in research.

Yet, Swedish businesses are much less supportive of cooperation in education and training, where their European counterparts rated noticeably higher.

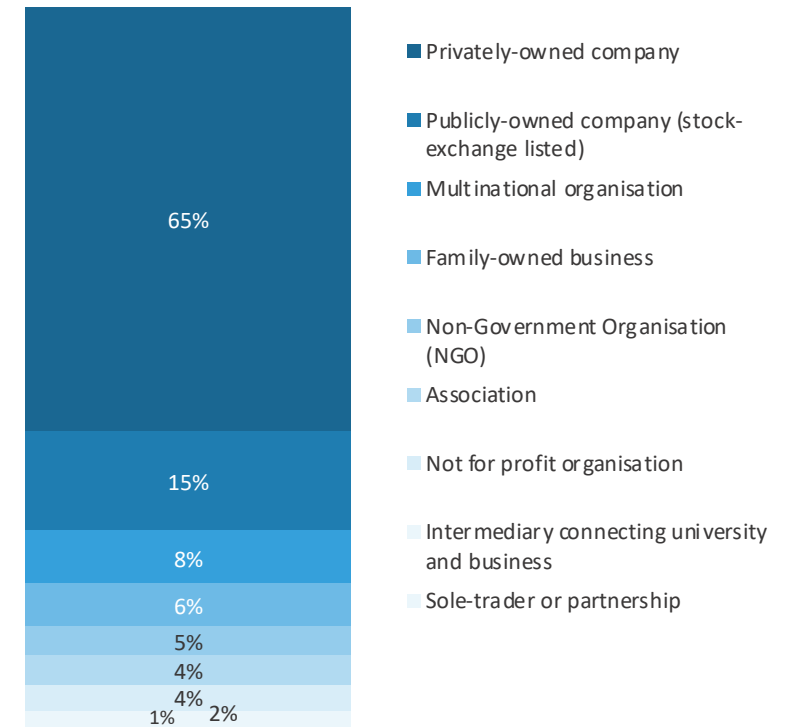
Respondents profile

Position of respondent



Over a third of the Swedish business sample (39%) are business directors, who constitute the largest group. It is followed by directors responsible for innovation or R&D (26%). The remaining business representatives identified themselves as directors responsible for university collaboration (11%), consultants (5%) and directors of HR, recruitment and training (4%). 19% of Swedish respondents hold 'other' positions.

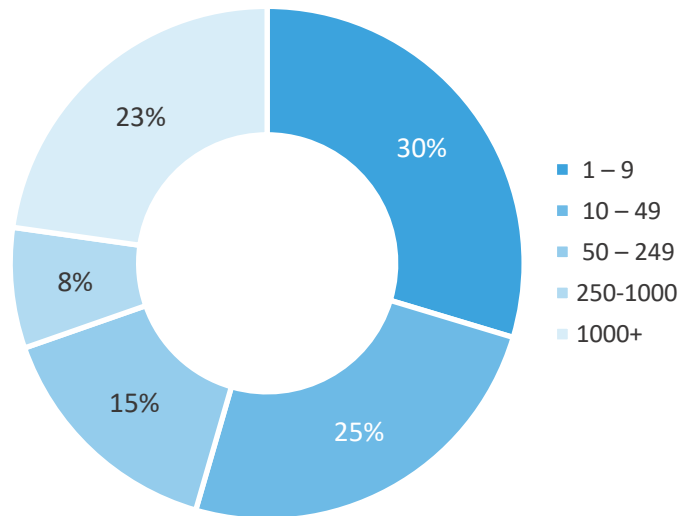
Type of business



The majority (65%) of businesses from the Swedish sample are privately-owned companies. 15% of business representatives work at publicly-owned companies. Multinational organizations and family-owned businesses constitute 8% and 6% respectively. The types of businesses with 5% or less representation include: NGOs, associations, not-for-profit organisations, intermediary connecting university and business and sole-traders or partnerships.

Respondents profile

Business size



Sample Size	
Swedish business representatives	n = 145
European business representatives	n = 3.113

A half of the Swedish business sample is comprised of small firms. 30% of them employ 10 to 49 people, while 25% of respondents represent micro companies (1 to 9 employees). 23% of business representatives work at very large organizations (over 1000 employees), and another 15% of respondents represent medium-size companies with up to 249 employees. The least common category appears to be large companies (250 to 1000 employees), with only 8% representation.

Contact us

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This report is part of the DG Education and Culture study on the University-Business Cooperation in Europe: drivers, challenges and opportunities in Europe EAC/10/2015. Further information can be found at www.ub-cooperation.eu

This report is also part of the Global University-Business Monitor initiative, a global study into university engagement and cooperation between university and business. Further information can be found at www.uni-engagement.com