

State of University- Business Cooperation

SWEDEN

University Perspective

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



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

Partners



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Executive summary

Summary

This report provides the findings of a study on the university-business cooperation (UBC) in Sweden from the perspective of higher education institutions (HEIs). Examining the perceptions of academics, HEI managers and knowledge transfer professionals (KTPs) provides positive signs for the future, with all the respondents currently cooperating with businesses planning to maintain or increase their cooperation in the future. In this sense, Sweden proves to be an attractive country for UBC.

Currently, the Swedish UBC is less developed compared to the European average. Thus, there still is room for further improvement, specifically in supporting academics in their cooperation efforts, including the allocation of work time for UBC activities, the creation of an incentives system and the promotion of cooperation beyond research activities.

About the study

The results presented in this report reflect the perceptions of academics, HEI managers and KTP in Sweden with respect to cooperation between HEIs and business. Data was collected by means of an online survey distributed via email to all registered European HEIs in 33 countries during October-November 2016, leading to a total of 161 Swedish HEI responses. The study measured the perceptions of respondents with respect to their cooperation efforts, barriers, drivers, support mechanisms and perceived capabilities.

University-Business Cooperation

Academics responding to this survey are involved in a variety of different UBC activities, but joint R&D emerges as the most prevalent one. Mobility of students is also better developed than other UBC activities in the country. Over 75% of academics do not undertake UBC activities in the valorisation or management domains. Particularly low is the mobility of staff.

Academic respondents see themselves as the most proactive initiators of UBC as 61% of respondents state that they usually or always initiate such cooperation. Swedish academics also assign an important role to university management and government. Contrary, former students as well as businesses are perceived as those stakeholders that less often initiate cooperation.

Cultural barriers

Swedish academics currently cooperating with business identify cultural differences (differing motivations and time horizons) between HEIs and business as well as the lack of resources (time and money) as the main barriers to UBC. Besides the same cultural differences, non-collaborating academics are concerned about the business lack of awareness of university research activities, the lack of an appropriate initial contact person within HEIs or business and the difficulty in finding the appropriate partner.

Aligned with the academic perception, barriers most strongly perceived by Swedish HEI representatives also relate to lack of time and monetary resources, and cultural differences.

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 and the business' interest in accessing scientific knowledge emerge as two of the top five facilitators, relational factors bear even higher importance for UBC. It is the existence of mutual trust, commitment, a shared goal that facilitate and thus drive cooperation, from the perspectives of all Swedish HEI respondents. When developing UBC, any effort to enable and increase cooperation between businesses and universities should primarily focus on relationship-building.

Different motivations to cooperate

Swedish academic respondents are motivated to collaborate with businesses by the willingness to address societal challenges and issues. Both, cooperating and non-cooperating academics are also motivated to contribute to the mission of the university. In addition, cooperating academics and HEI representatives mention the motivation to obtain financial resources. Research-oriented benefits including new insights for research and its practical application are also important for all respondents.

Academics perceive society as the stakeholder group that benefits the most from UBC and HEI representatives perceive universities as the major beneficiaries.

Implementation strategies need attention

Overall, the policy, strategic, structural and operational mechanisms to support UBC are developed to a medium level in Swedish HEIs. The most developed policy mechanisms are connected with innovation and entrepreneurship growth.

On the institutional level, Swedish HEI representatives recognise top-level management commitment to UBC and higher level of the development of paper strategies, such as mission and vision embracing cooperation and a strategy supporting UBC. Yet, specific recognition systems, the practice of recruiting business professionals into the knowledge transfer area, and the reduction in teaching time in exchange for extended cooperation emerge as less developed.

Agencies dedicated to UBC and incubators are the most developed structural mechanisms in Swedish HEIs, and when examining the development of specific activities, a strong focus is seen to be placed on students, with the highest development reported in relation to student entrepreneurship courses and activities facilitating student interaction with businesses.

Education-related UBC less favourable

Similar to the European results, Swedish academics are less willing to recommend education-related UBC to their colleagues, compared to research, 41% vs. 25% detractors, respectively.

Positive attitude but lack of support

Academic respondents already cooperating with business identify moderate UBC capabilities and beliefs about the role of UBC. Swedish academics generally have a positive attitude towards UBC and perceive their own research profile as strong. However, they perceive they lack knowledge about the UBC procedures and processes, they have insufficient knowledge about business's needs and they report a general lack of support to undertake UBC.

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, 51 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.



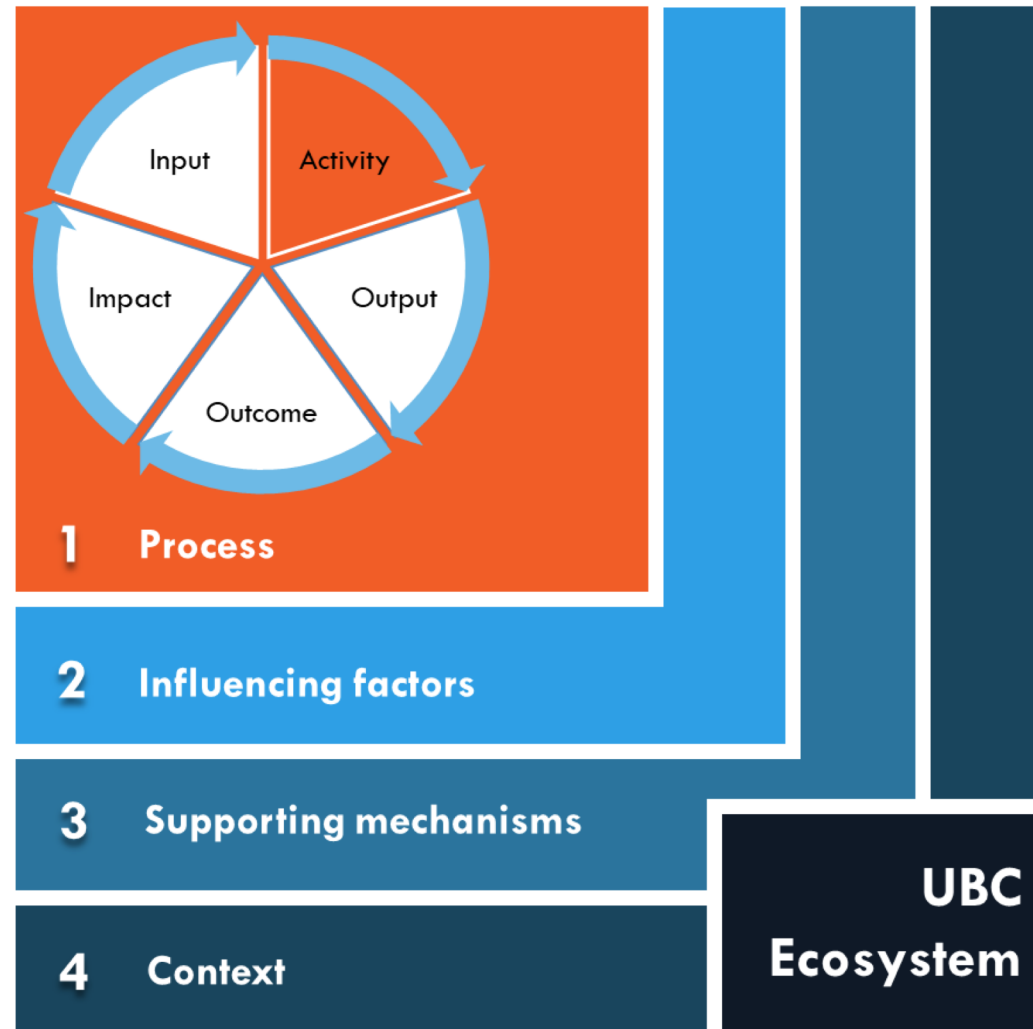
UBC activities

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 and categorised into the areas of education, research, valorisation and management.

Area	Activity
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 academics see the development of UBC in their country lower than the European average. Less than a fifth of the respondents indicated medium to high level of development for most UBC activities.

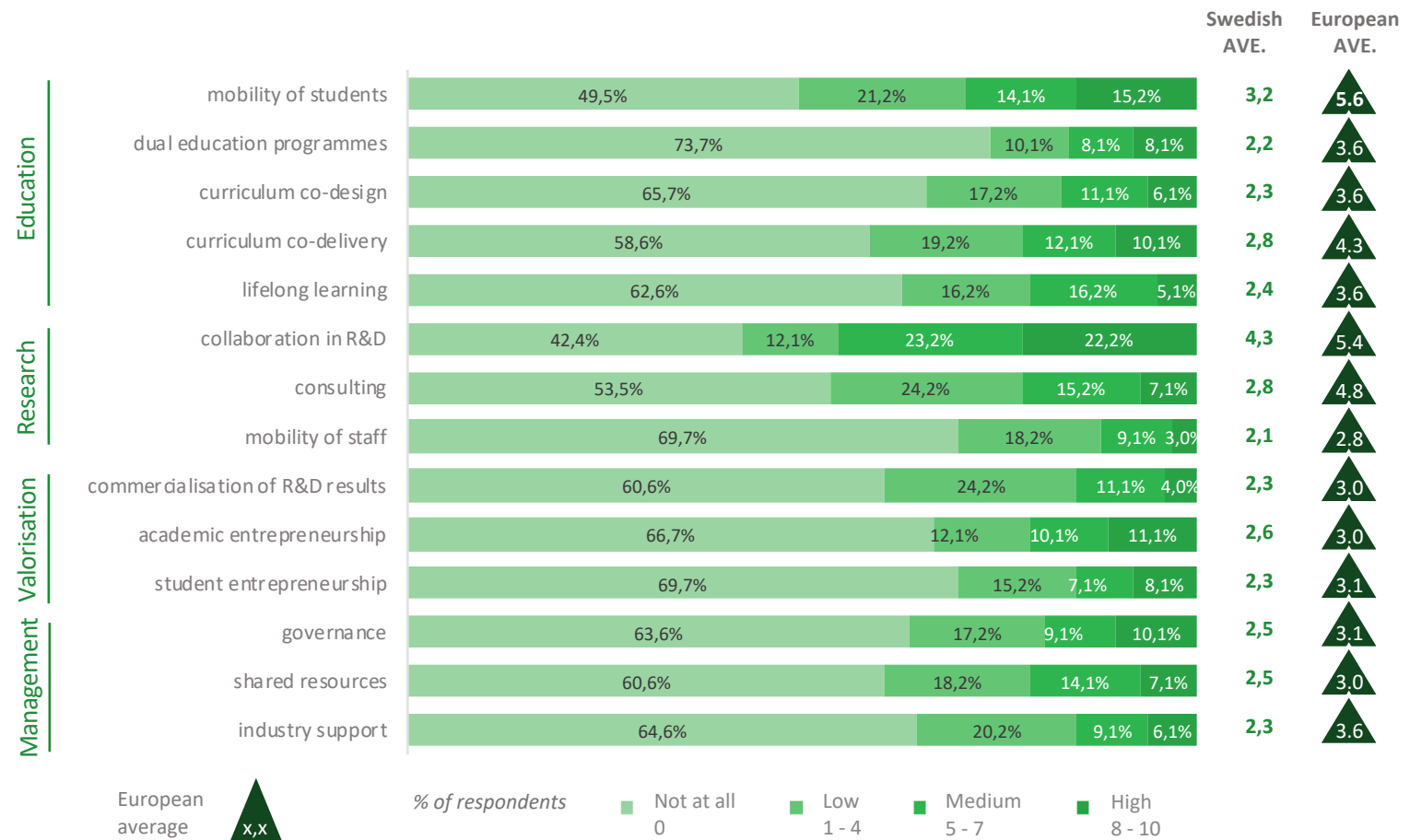
The most developed activity is collaboration in R&D (4.3). Nevertheless, over 40% of Swedish academics do not engage in it at all.

Mobility of students (3.2) is also better developed than other UBC activities in Sweden. Curriculum co-design and consulting follow up, yet only 22% of academics indicate a higher level of development of these activities.

Most UBC management and valorization activities are reported to be undeveloped or not present at all by over 75% of Swedish academics.

The extent of development of UBC activities

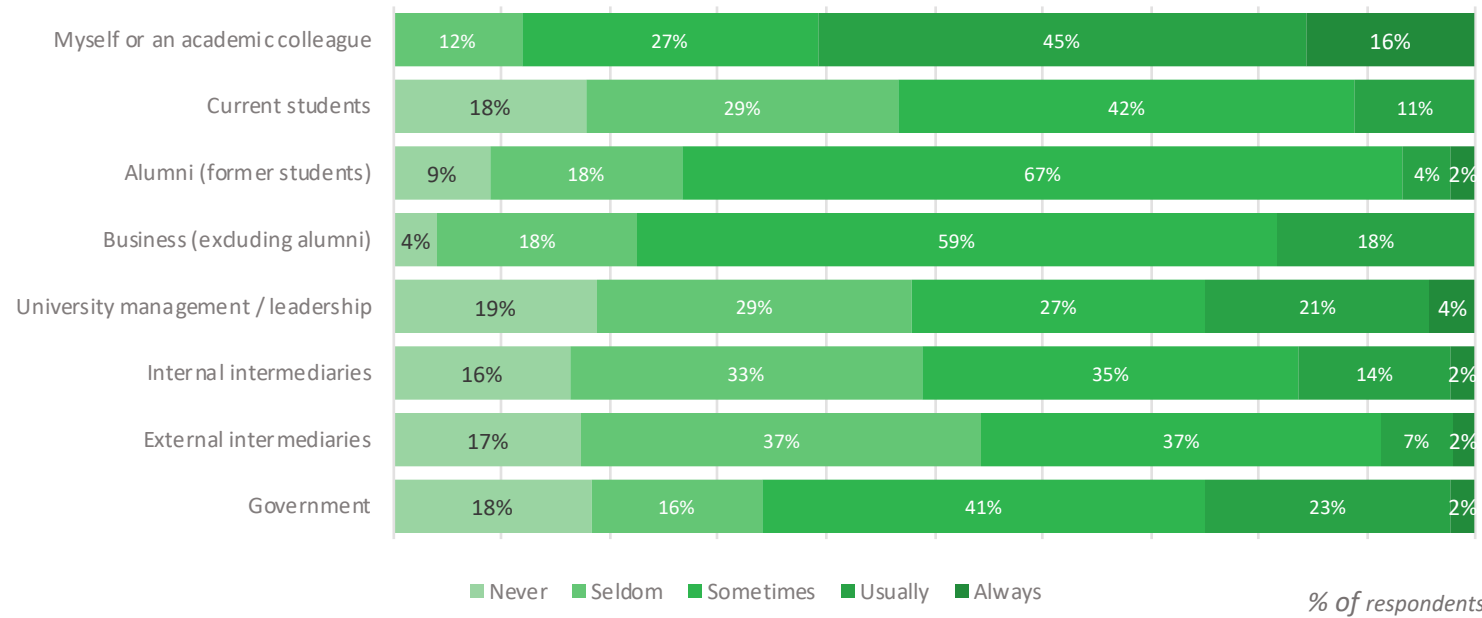
'Which UBC activities do you collaborate with businesses in?' – as answered by academics



Initiation of UBC

How UBC is initiated

'How often various stakeholders initiate UBC activities' – as answered by academics



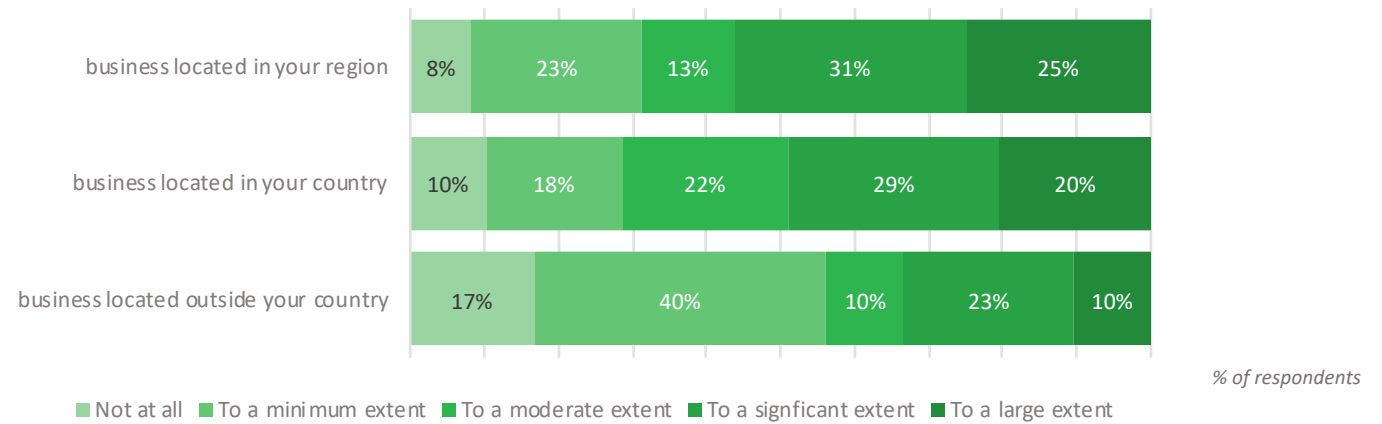
Over a half of Swedish academics (61%) state that they themselves or their colleagues always or usually initiate UBC.

University management (25%) and government (25%) are also considered more active UBC initiators.

Swedish academics agree that their former students/alumni and businesses only sometimes initiate actions towards UBC.

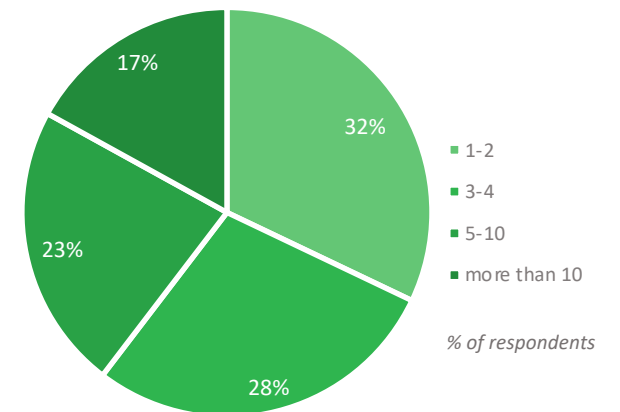
Location of cooperating partners

Location of business partners



Academics in Sweden mostly focus on collaboration with regional and national businesses. 56% of respondents indicate the collaboration at regional level and 49% at national to a significant or large extent. However, only 33% of academics closely cooperate with international businesses.

Number of business partners

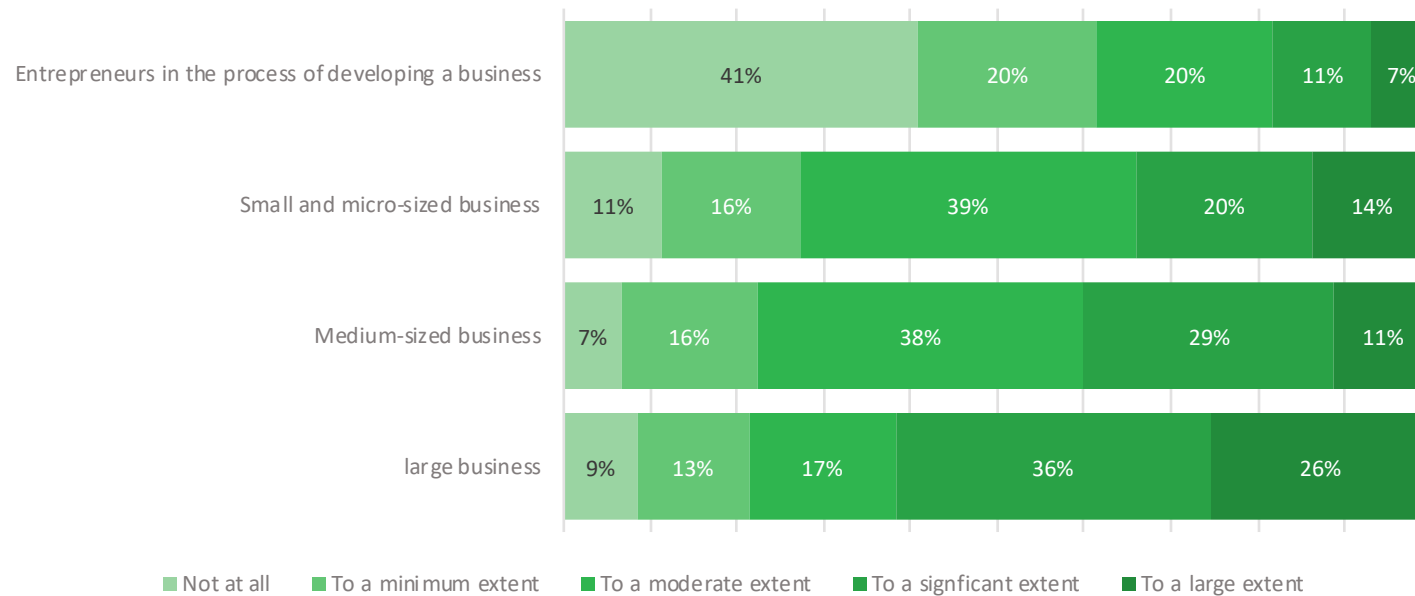


Over a half of Swedish academics cooperate with 1 to 4 businesses (60%). The remaining 23% have partner relations with 5 to 10 partners, while 17% established connections with more than 10 businesses.

Size of cooperating partners

Size of cooperating partner

'With whom do you collaborate?' – as answered by academics



The larger the business, the more likely Swedish academics are to cooperate with it.

62% of cooperating academics in Sweden engage to a significant or large extent with large businesses.

This cooperation is reduced to 40% with medium-sized businesses and 34% with small and micro-sized ones.

Swedish academics are less likely to cooperate with entrepreneurs in the process of developing a business (18%).

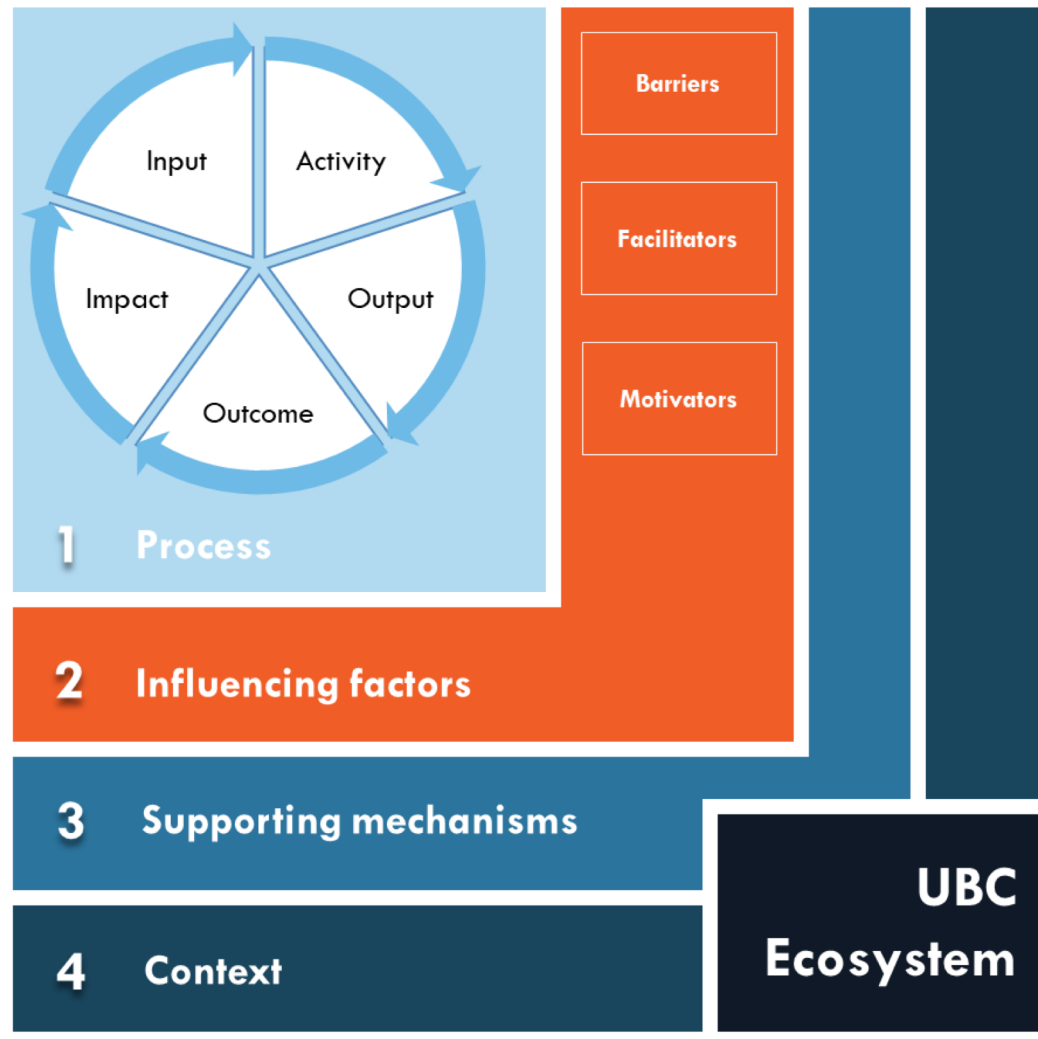
Factors influencing UBC

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 sufficiently present.



Barriers hindering UBC

Barriers

What is inhibiting your cooperation with business?' – as answered by academics



	Academics collaborating with business	Academics not collaborating with business
1.	Limited resources of SMEs	Differing motivation / values between university and business
2.	Differing time horizons between university and business	Differing time horizons between university and business
3.	Insufficient work time allocated by the university for academics' UBC activities	Business lack awareness of university research activities / offerings
4.	Differing motivation / values between university and business	No appropriate initial contact person within either the university or business
5.	Lack of university funding for UBC	Difficulty in finding the appropriate collaboration partner
<i>Lowest</i>	Frequent staff turnovers within my university or the business	Frequent staff turnovers within my university or the business

The top five barriers for both collaborating and non-collaborating academics are rather different.

While Swedish academics who collaborate with businesses see limited resources of SMEs as the most pressing barrier, non-cooperating academics indicate differing motivations/values between university and business as the most hindering one. Collaborating academics give this barrier less importance.

Nonetheless, both groups are equally hindered by another cultural issue - differing time horizons between university and businesses .

The least important factor that might inhibit UBC for both groups is frequent staff turnover within the university or the business. ()

Barriers hindering UBC

Swedish academics perceive most of the barriers to UBC similar to their European counterparts, but with some exceptions.

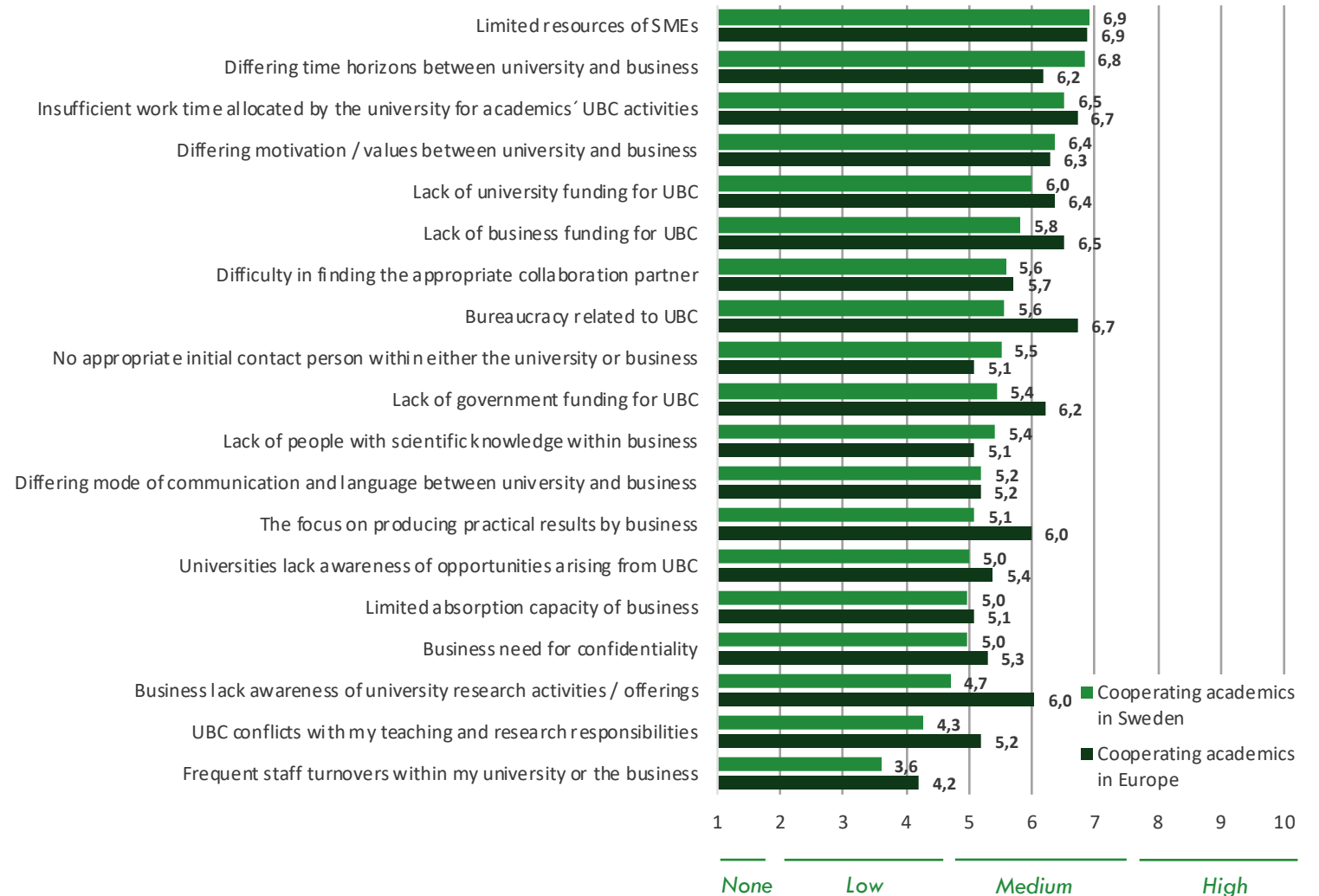
Thus, Swedish academics are hindered by cultural issues including differing time horizons and motivations more than their European counterparts.

On contrary, Swedish academics see lack of funding from different sources, bureaucracy related to UBC and businesses' focus on practical results as less pressing than European ones on average.

Both groups see frequent staff turnovers within either partner as the least significant barrier for UBC.

Barriers

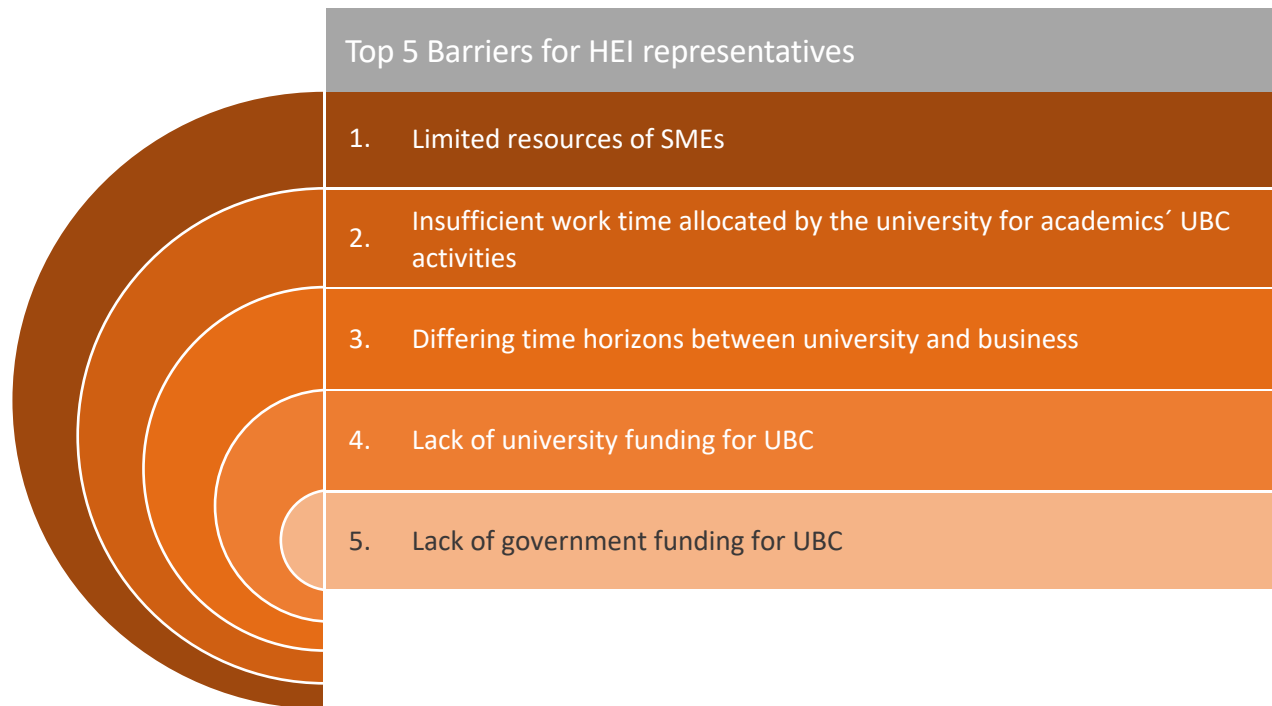
'What is inhibiting your cooperation with business?' – as answered by academics



Barriers hindering UBC

Barriers

'What is inhibiting your HEI cooperation with business?' – as answered by HEI representatives



Swedish HEI representatives indicate that limited resources of SMEs hinder UBC the most.

Insufficient work time allocated by university for academics' UBC activities serve as another barrier to UBC, as well as differing time horizons between universities and businesses.

Lack of university and government funding is also reported to be a significant barrier hindering UBC for Swedish HEI representatives, however less strongly present in comparison with other barriers.

Barriers hindering UBC

Overall, Swedish HEI representatives perceive most of the barriers to UBC rather similarly to European average, but with some exceptions.

Thus, Swedish HEI representatives are hindered by limited SMEs' resources, insufficient work time allocation by the university for academics' UBC activities and differing time horizons more than their European counterparts.

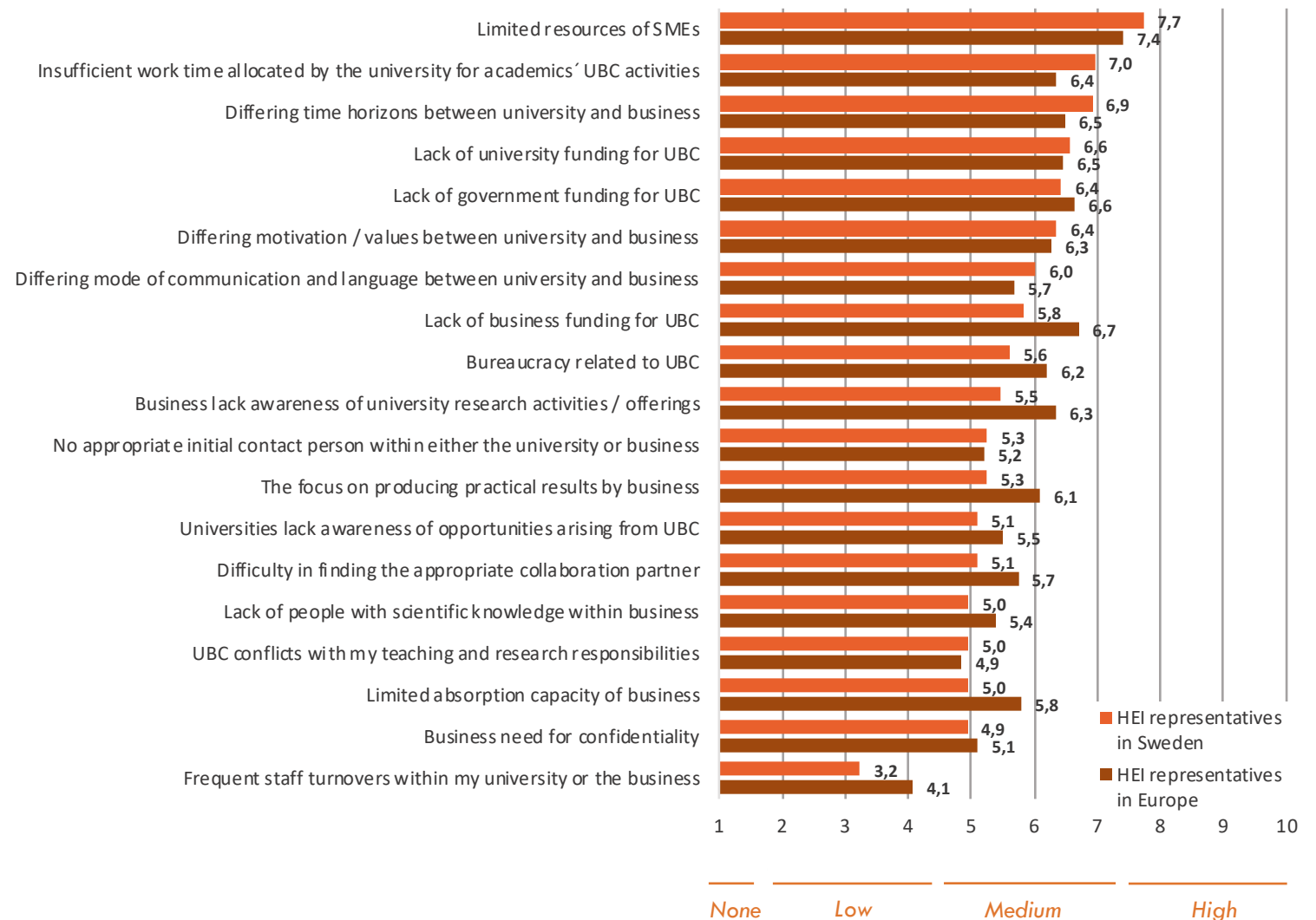
On contrary, Swedish HEI managers see lack of funding from government and businesses less pressing than European managers.

Similarly, businesses' unawareness of university research activities and their limited absorption capacity seem less important barriers for Swedish HEI representatives than for their European counterparts.

Frequent staff turnovers within the collaborating partners is the least common UBC barrier for both groups.

Barriers

'What is inhibiting your cooperation with business?' – as answered by academics and HEI representatives



Drivers stimulating UBC

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.


The main UBC facilitators for both Swedish academics and Swedish HEI representatives are rather similar.

Both groups agree that facilitators related to the existence of funding and personal relationships (e.g. existence of mutual commitment, mutual trust, a shared goal) are highly important for UBC.

Yet, while cooperating academics recognize existence of funding to undertake the cooperation as the top facilitator of UBC, HEIs representatives value it less. The latter consider the existence of mutual trust as the most important facilitator.

Facilitators

'What is facilitating your cooperation with business?' – as answered by academics and HEI representatives



	Academics cooperating	HEI representatives
1.	Existence of funding to undertake the cooperation	Existence of mutual trust
2.	Existence of mutual trust	Existence of mutual commitment
3.	Existence of mutual commitment	Existence of funding to undertake the cooperation
4.	Existence of a shared goal	Existence of a shared goal
5.	Interest of business in accessing scientific knowledge	Interest of business in accessing scientific knowledge

Drivers stimulating UBC

European and Swedish academics' have slightly differing perceptions of UBC facilitators.

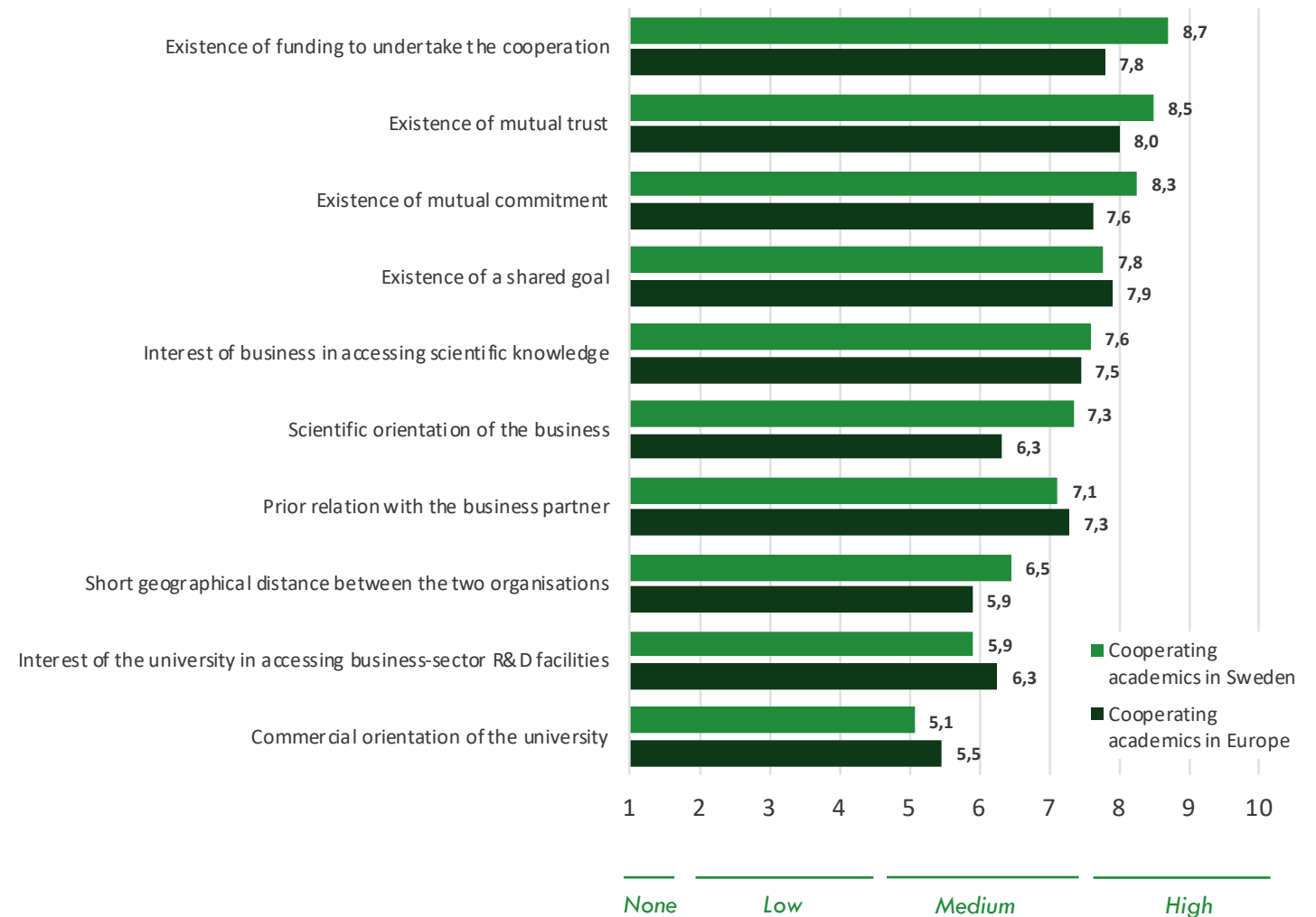
For both groups, the most common UBC facilitators are those related to the existence of funding to undertake the cooperation and positive relationship between the actors (e.g. existence of mutual commitment, trust and a shared goal).

On contrary, Swedish academics find universities' interest in accessing business-sector R&D facilities less stimulating than their European counterparts.

Commercial orientation of the university emerges as the least important UBC driver for both groups.

Facilitators

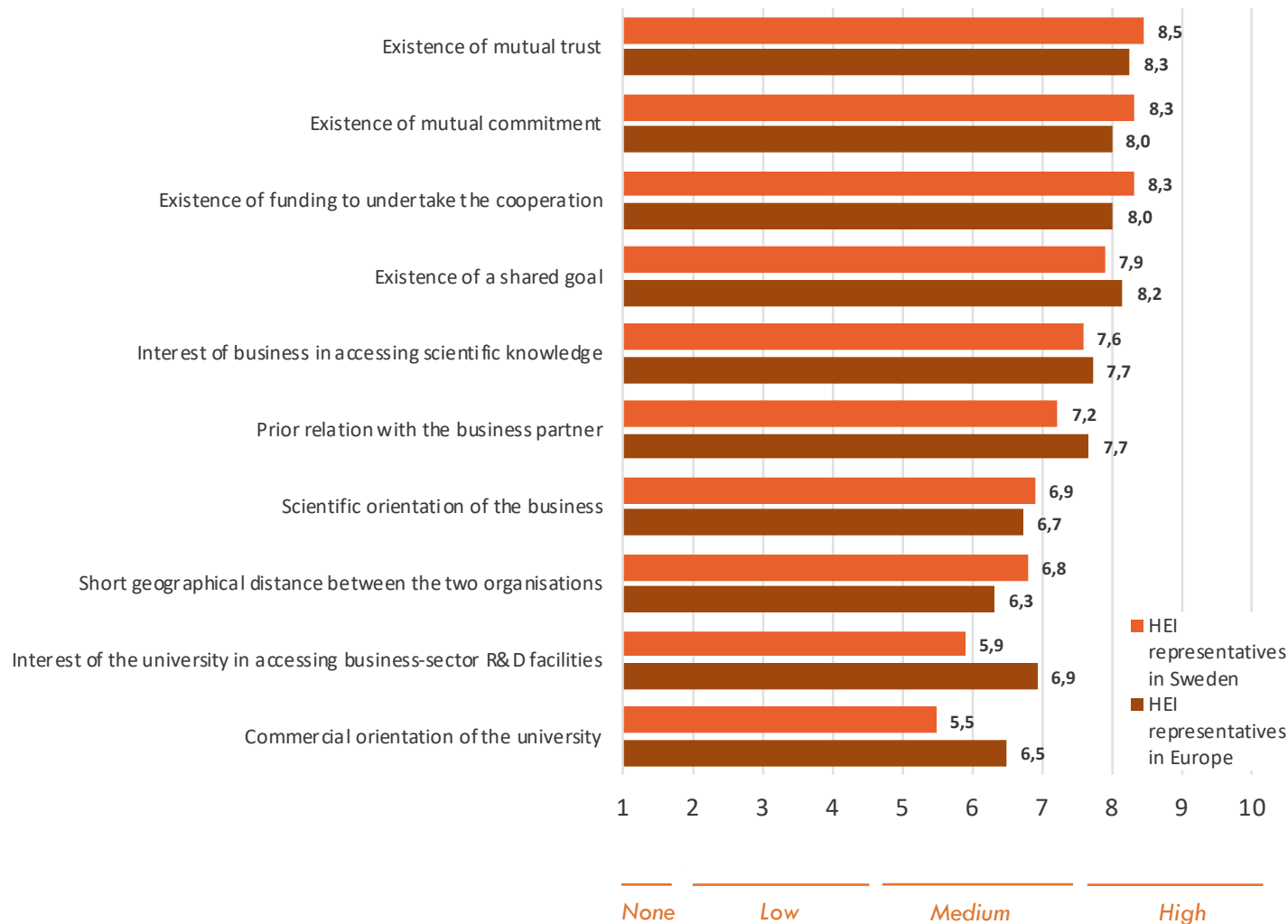
'What is facilitating your cooperation with business?' – as answered by academics



Drivers stimulating UBC

Facilitators

'What is facilitating your cooperation with business?' – as answered by HEI representatives



European and Swedish HEI representatives have relatively similar perceptions of what stimulates UBC.

For both groups, the most important facilitators relate to personal relationship and existence of funding to undertake UBC. This is consistent with the academic perspective.

Swedish HEI representatives see short geographical distance between partners as more important driver stimulating UBC than their European counterparts.

Compared to European average, Swedish HEI representatives see the universities' interest in accessing business-sector R&D facilities and commercial orientation of the universities as significantly less stimulating drivers for UBC.

Drivers stimulating UBC


Cooperating and non-cooperating Swedish academics have certain discrepancies in their motivations to engage in UBC.

While cooperating academics are highly motivated to address societal challenges and issues, their non-cooperating colleagues are willing to contribute to the mission of the university.

Furthermore, cooperating academics highlight the research-centered motivations, whereas those not engaged in UBC are more driven by the benefits that other stakeholders can get from UBC including university, graduates and society.

Motivators

'What motivates you to cooperate with business?'- as answered by academics

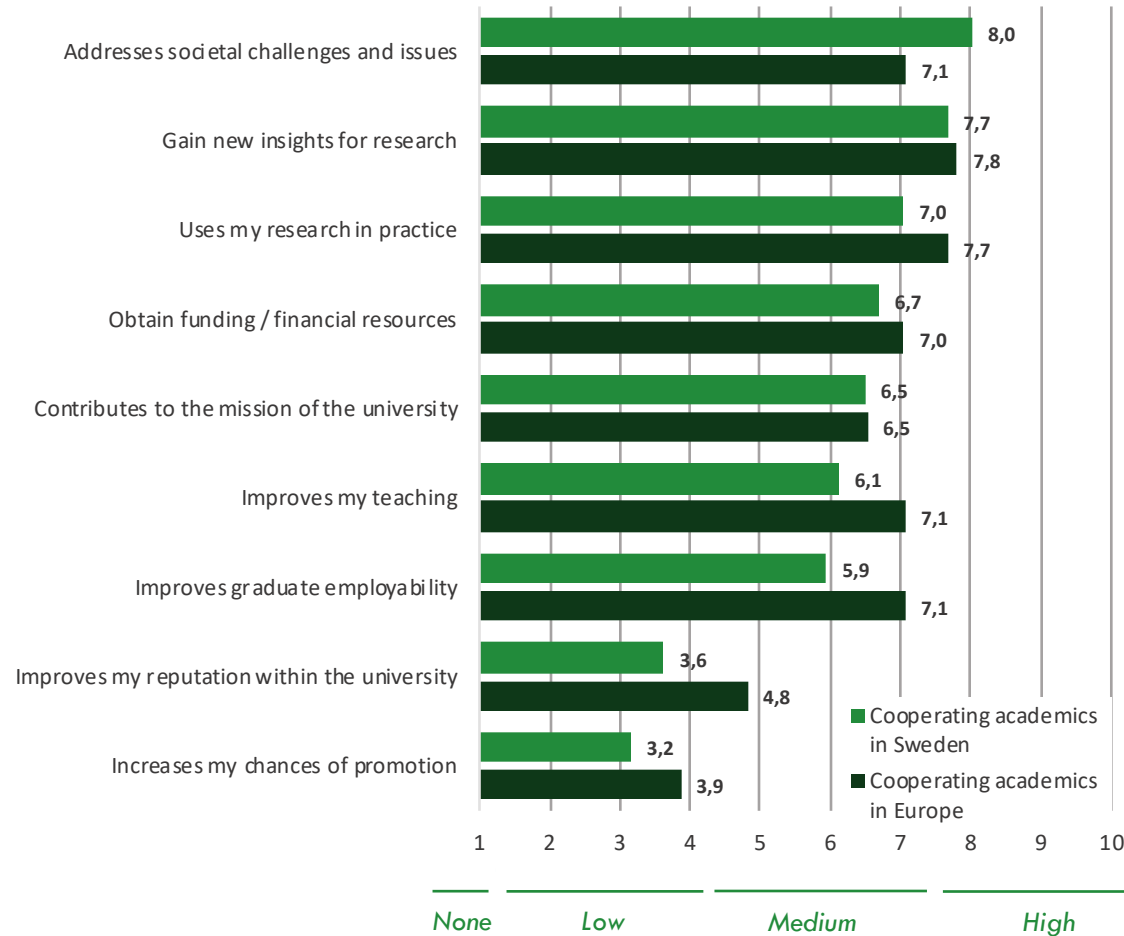


	Academics who cooperate	Academics who <u>do not</u> cooperate
1.	Addresses societal challenges and issues	Contributes to the mission of the university
2.	Gain new insights for research	Improves graduate employability
3.	Uses my research in practice	Addresses societal challenges and issues
4.	Obtain funding / financial resources	Uses my research in practice
5.	Contributes to the mission of the university	Improves my teaching

Drivers stimulating UBC

Motivators

'What motivates you to cooperate with business?'- as answered by academics



Swedish and European academics' perceptions of UBC motivators are different. Swedish academics rate most motivators lower.

One exception is that Swedish academics are motivated to address societal challenges and issues more than their European counterparts.

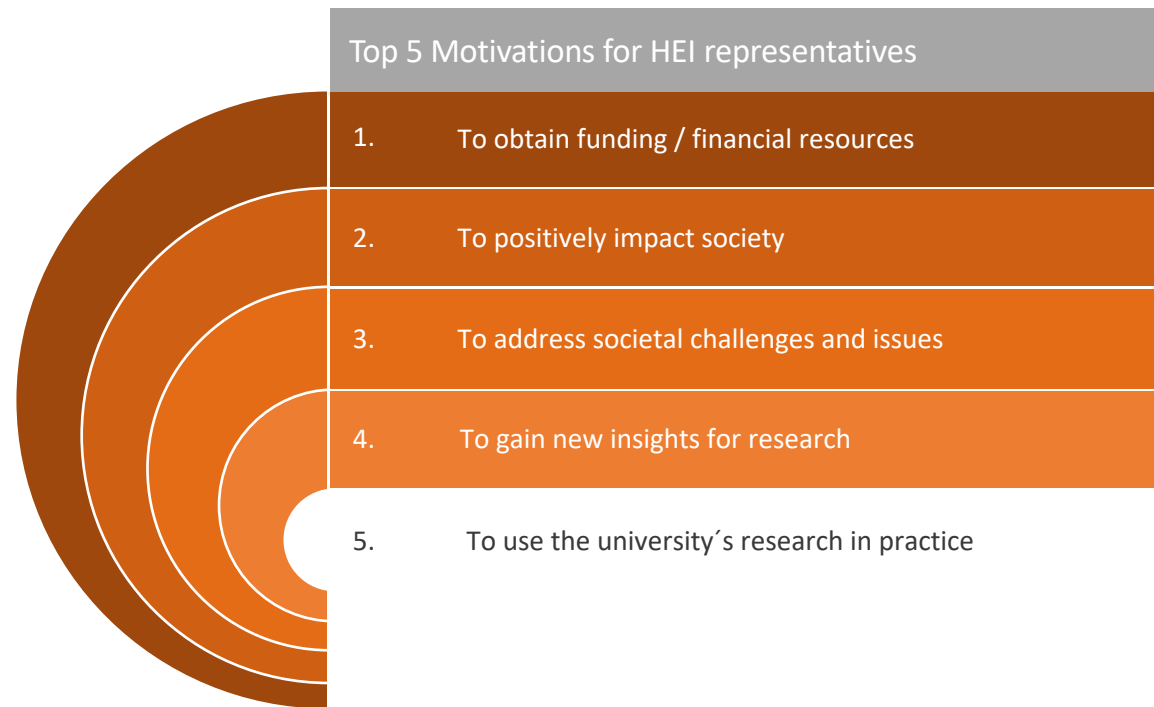
Compared to European average, Swedish academics are less motivated by their professional gains from UBC, such as application of their research or improvement of teaching.

Promotion and reputation related motivators are the weakest motivators for both groups, although rated noticeably higher by European academics.

Drivers stimulating UBC

Motivators

'What motivates your HEI to cooperate with business?'- As answered by HEI representatives



Swedish HEI representatives are motivated to obtain financial resources the most.

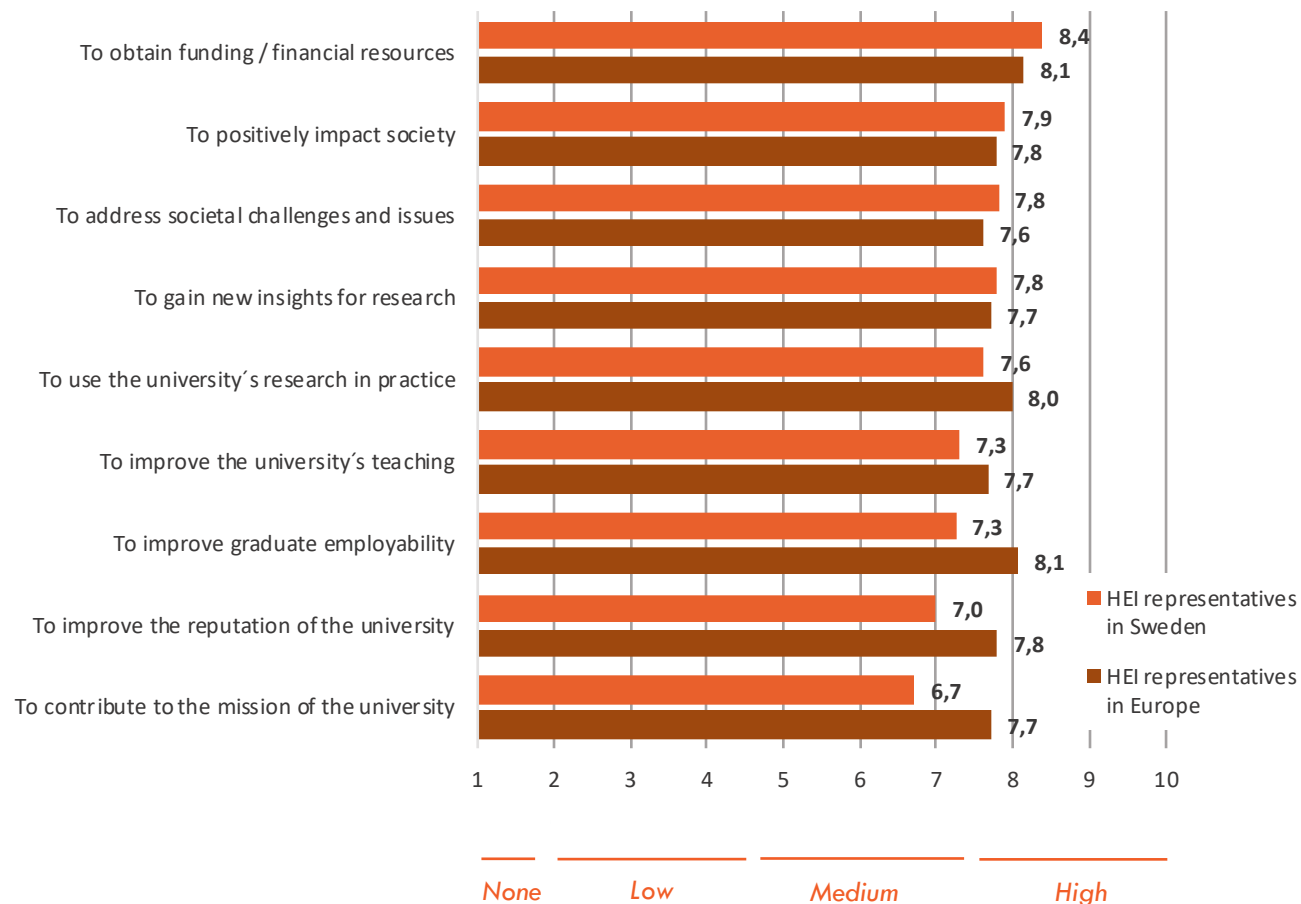
They are also interested in driving societal change by positively impacting society and addressing societal challenges and issues.

Motivations to gain new insights for research and practically apply university's research also drives UBC for Swedish HEI representatives.

Drivers stimulating UBC

Motivators

'What motivates your HEI to cooperate with business?'- as answered by HEI representatives



Swedish and European HEI representatives have slightly different perceptions of UBC motivators.

Obtaining funding is the top motivator for both groups.

However, while European HEI representatives are highly interested in improving graduate employability with UBC, their Swedish counterparts see it as one of the least stimulating driver.

The least important motivators for Swedish HEI representatives are related to the university reputation and contribution to its mission, which rate considerably higher for European HEI representatives on average.

Benefits of UBC

Swedish academics and HEI managers have rather different perceptions about the stakeholders that benefit from UBC.

While academics see society benefitting from UBC the most, HEI representatives see considerably less benefits for it.

Instead, HEI representatives see universities as the primary beneficiaries of UBC.

Both groups agree that students and businesses benefit from UBC to a larger extend.

While HEI representatives see academics as the least benefitting actors in UBC, academics consider the government to be so, although also recognizing little benefits for themselves.


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

'Who receives the benefits of UBC?'- as answered by academics and HEI representatives

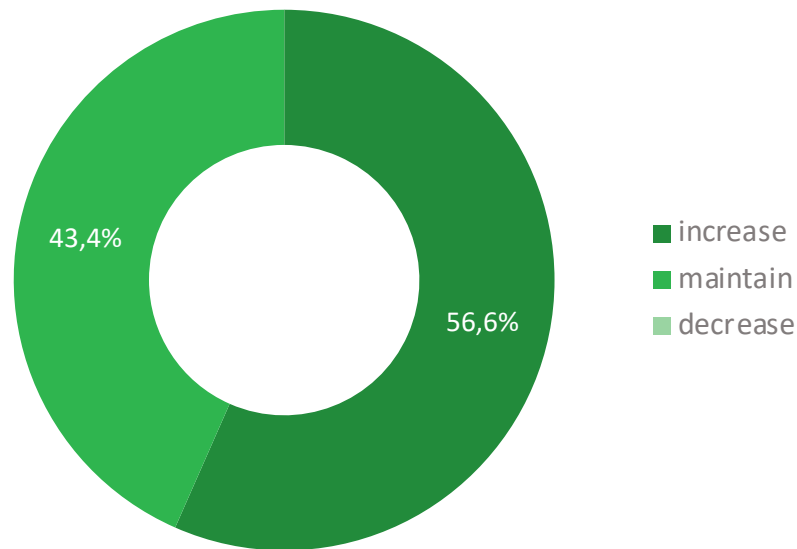


	Academics	HEI representatives
1.	Society	Universities
2.	Students	Students
3.	Businesses	Businesses
4.	Universities	Government / public authorities
5.	Academics	Society
6.	Government / public authorities	Academics

Future intentions

Future UBC intentions – Sweden

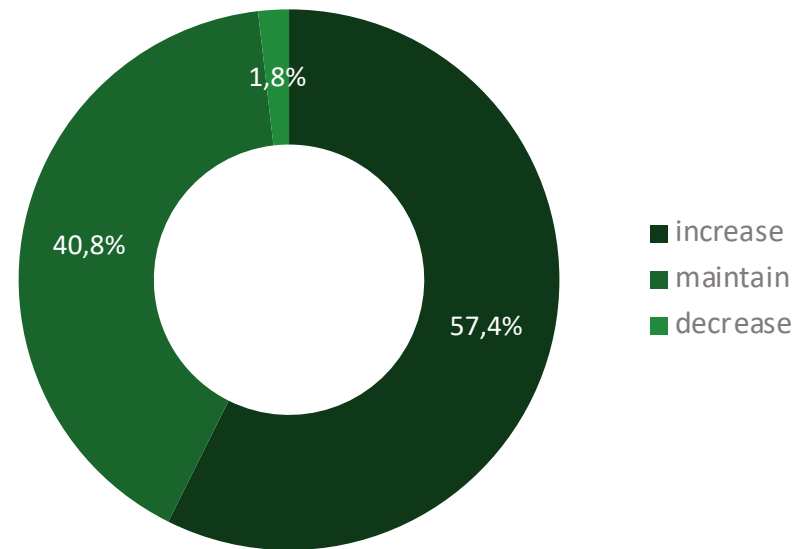
As answered by Swedish academics



Swedish academics show very strong commitment to UBC. 100% of academics expect to increase (56,6%) or maintain (43,4%) their UBC activities.

Future UBC intentions – EUROPE

As answered by European academics



Academics in Europe show equal commitment to increasing UBC activities. 57,4% of cooperating academics expect to increase their cooperation and only 1,8% plan to decrease their collaborative activities with businesses. This shows a positive projection for UBC in Europe.

Willingness to recommend UBC

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

Swedish academics are equally satisfied with UBC in research as their European counterparts (NPS=17). While 42% of them will promote UBC in research positively, 25% will do it negatively.

Contrary, Swedish academics are less satisfied in education-related UBC than academics in Europe, even when none of them are very satisfied with this experience (NPS=-20 for Swedish and NPS=-14 for European academics).

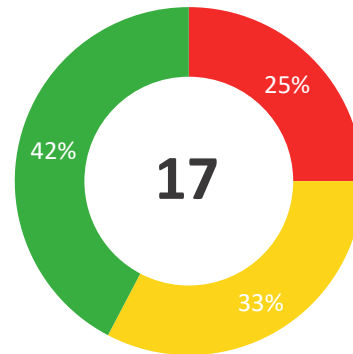
Willingness to recommend to an academic colleague cooperation with business in R&D and education

As answered by academics

	Detractors	Passives	Promoters	Net promotor score
Academics cooperating in E&T	41%	37%	22%	-20
Academics cooperating in R&D	25%	33%	42%	17

Satisfaction in cooperation with businesses (net promotor score)

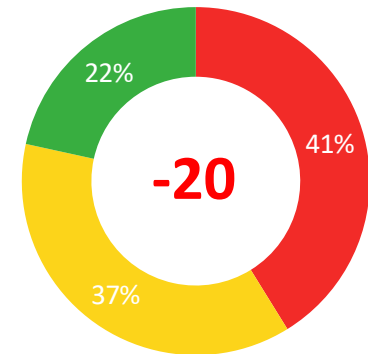
Academics cooperating in research



■ Detractors ■ Passives ■ Promoters

European academics' NPS result: 17

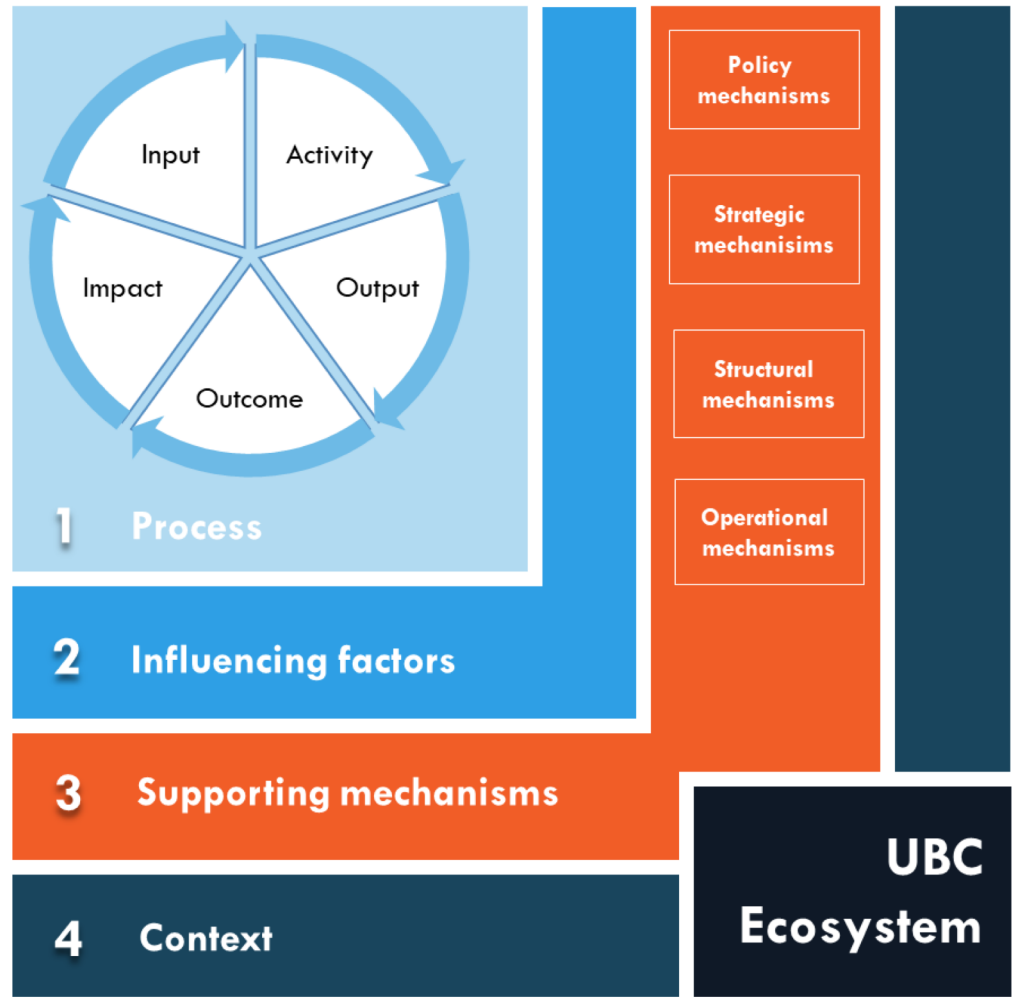
Academics cooperating in education



■ Detractors ■ Passives ■ Promoters

European academics' NPS result: -14

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

Swedish HEI representatives perceive UBC supporting policy mechanisms to be developed to a medium level. This perception is mostly consistent with European average.

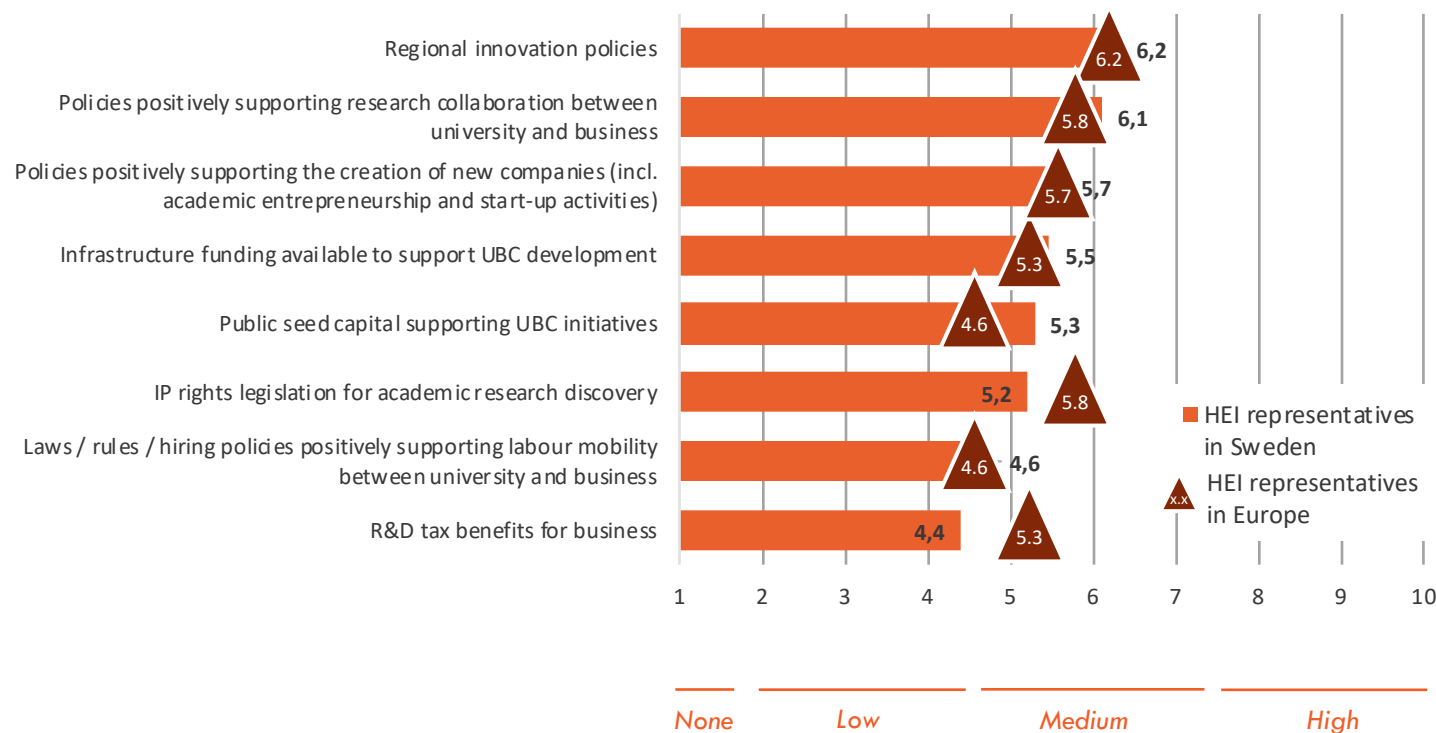
Regional innovation policies and policies positively supporting research UBC are the most developed supporting mechanisms in Swedish HEIs (6.2 and 6.1 respectively).

Compared to European average, public seed capital supporting UBC initiatives is more common in Swedish HEIs.

On contrary, IP rights legislation for academic research discovery and R&D tax benefits for business are less developed in Sweden than in Europe on average.

Policy mechanisms

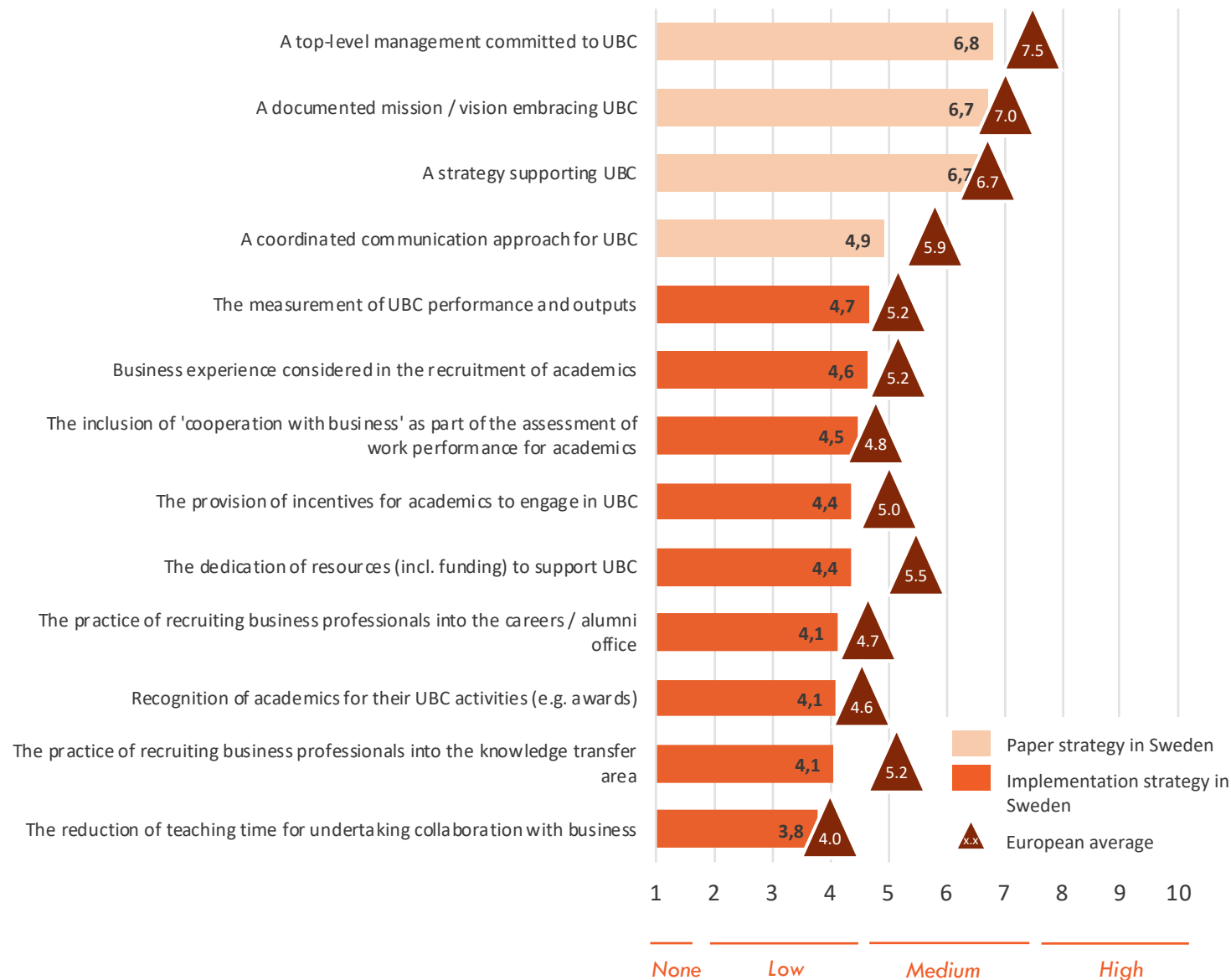
'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Supporting mechanisms for UBC

Strategic mechanisms

'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



The development of the strategic mechanisms in Swedish and European HEIs is rather similar. Yet, most strategic mechanisms are less common in Swedish HEIs.

The top-level management of Swedish HEIs is highly committed to UBC (6.8). Generally, the paper strategies are substantially more developed than the implementation mechanisms in both Swedish and European HEIs.

The least developed mechanisms are the strategies related to the practice of recruiting business professionals into the knowledge transfer area (4.0) and the reduction of teaching time for cooperating academics (3.8).

Supporting mechanisms for UBC

The level of development of Swedish HEI structural mechanisms to support UBC differs from European average.

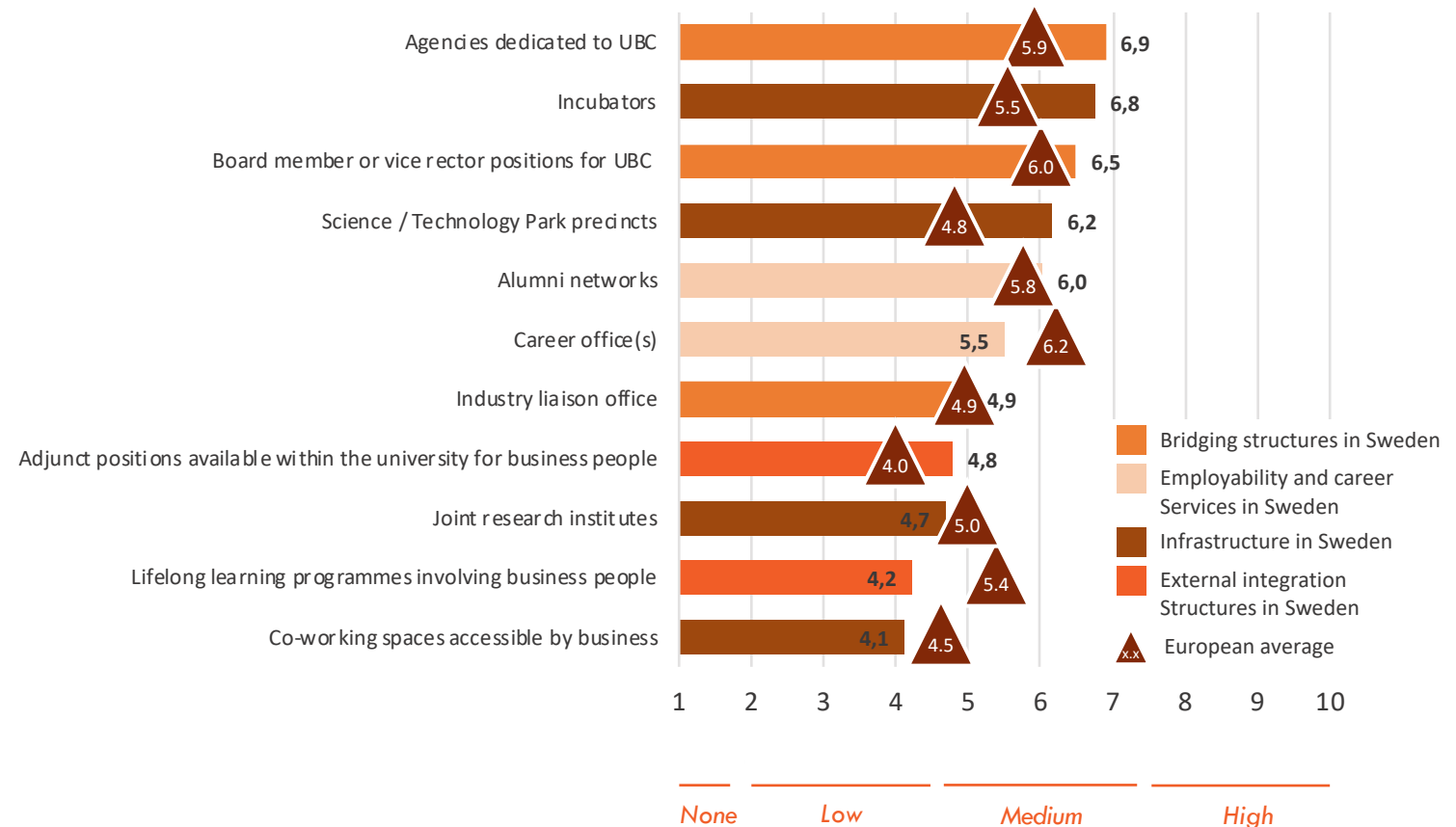
Top four structural mechanisms are related to the bridging structures (agencies and board member positions for UBC) and infrastructure (incubators and technology parks). The development of above-mentioned mechanisms in Sweden exceeds European average.

On contrary, career services are less developed in Sweden than in Europe on the whole.

Lifelong learning programmes involving business people (4.2) and co-working spaces accessible by businesses (4.1) are the least developed structural mechanisms in Swedish HEIs.

Structural mechanisms

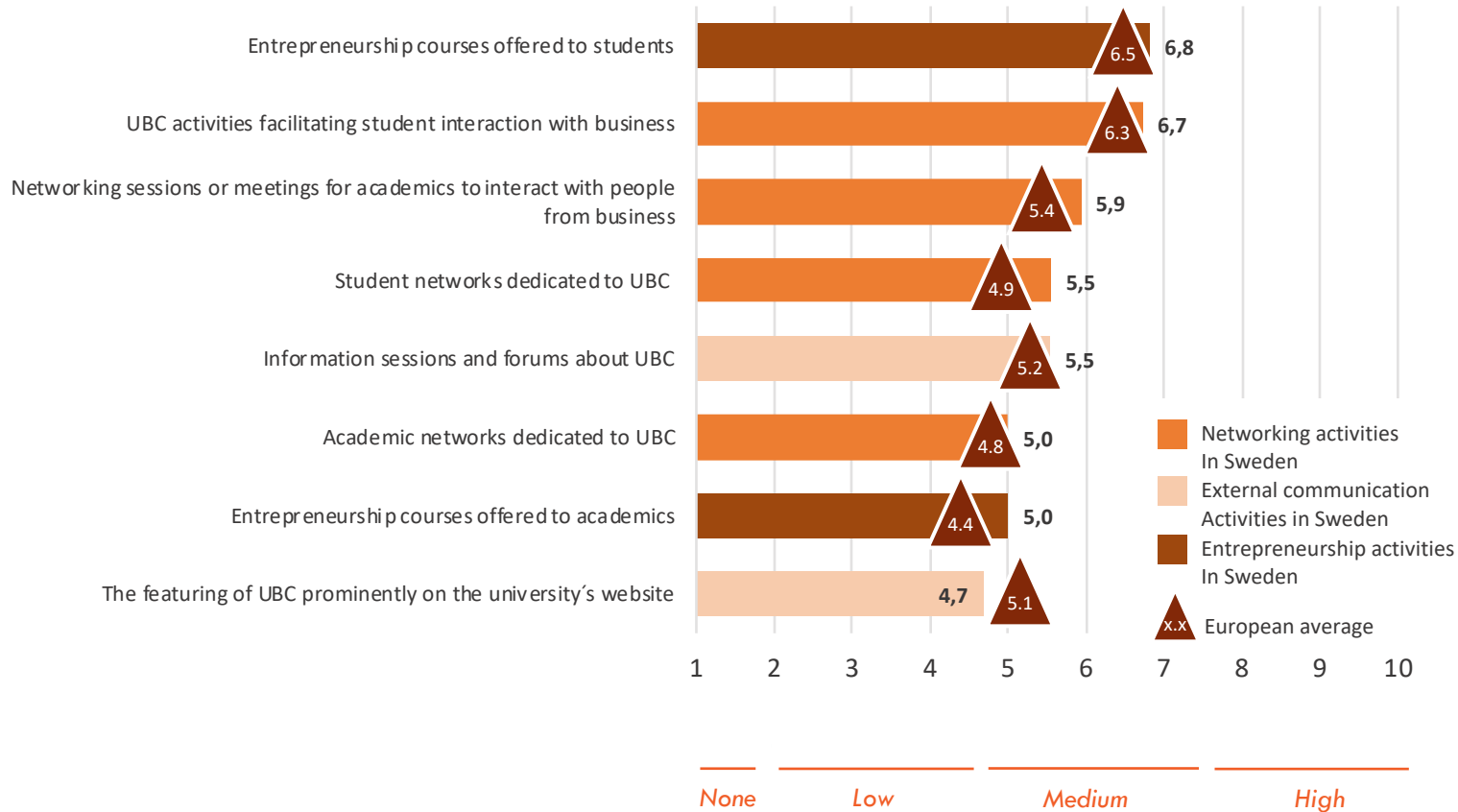
'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Supporting mechanisms for UBC

Operational mechanisms

'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Overall, operational mechanisms supporting UBC are more developed in Swedish HEIs than in European ones.

Student-oriented mechanisms are the most developed for both Swedish and European HEI representatives, where entrepreneurship courses offered to students and UBC activities facilitating student interaction with businesses are ranked the highest.

Academics-centered mechanisms (except networking sessions for their interaction with business) are the activities that less developed in Swedish HEIs.

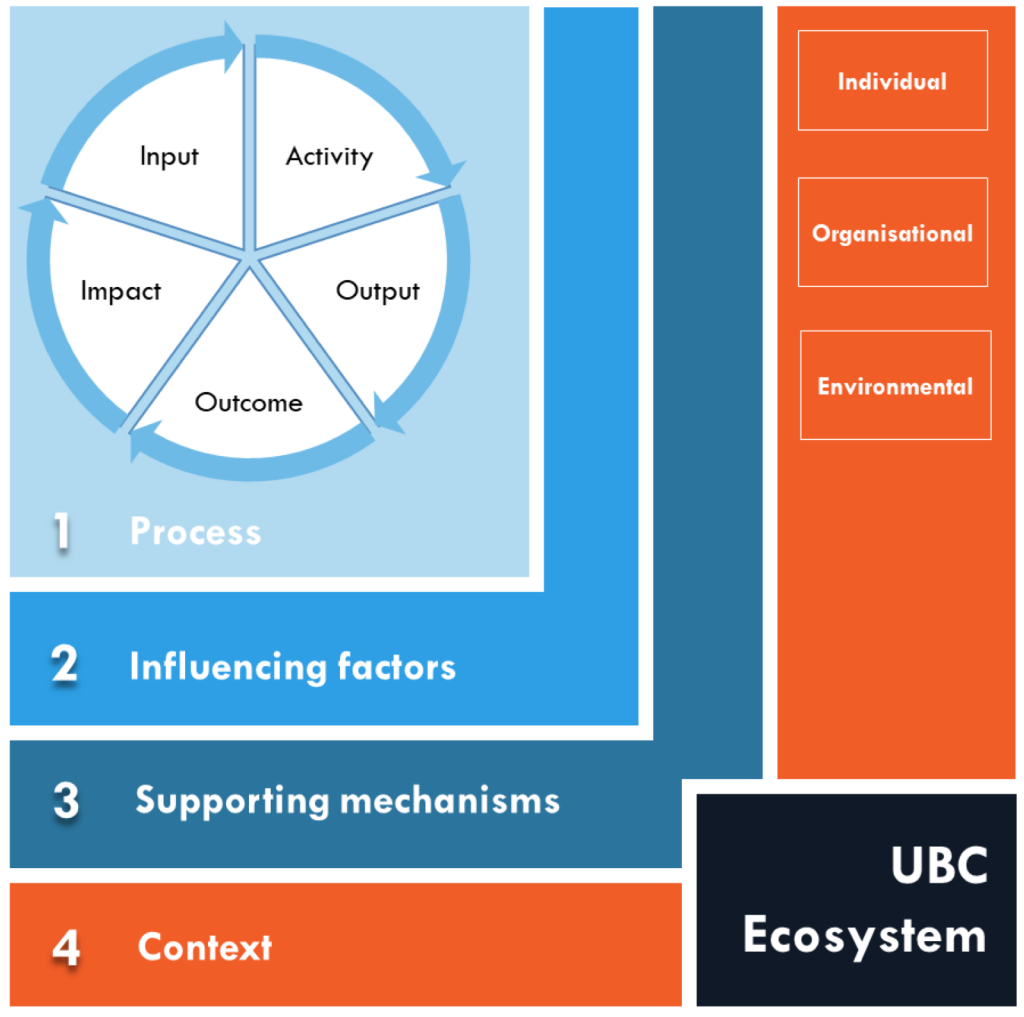
Swedish HEIs representatives also note that universities rarely promote UBC on their website, which appears to be the least developed operational mechanism for them.

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 or medium 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.).

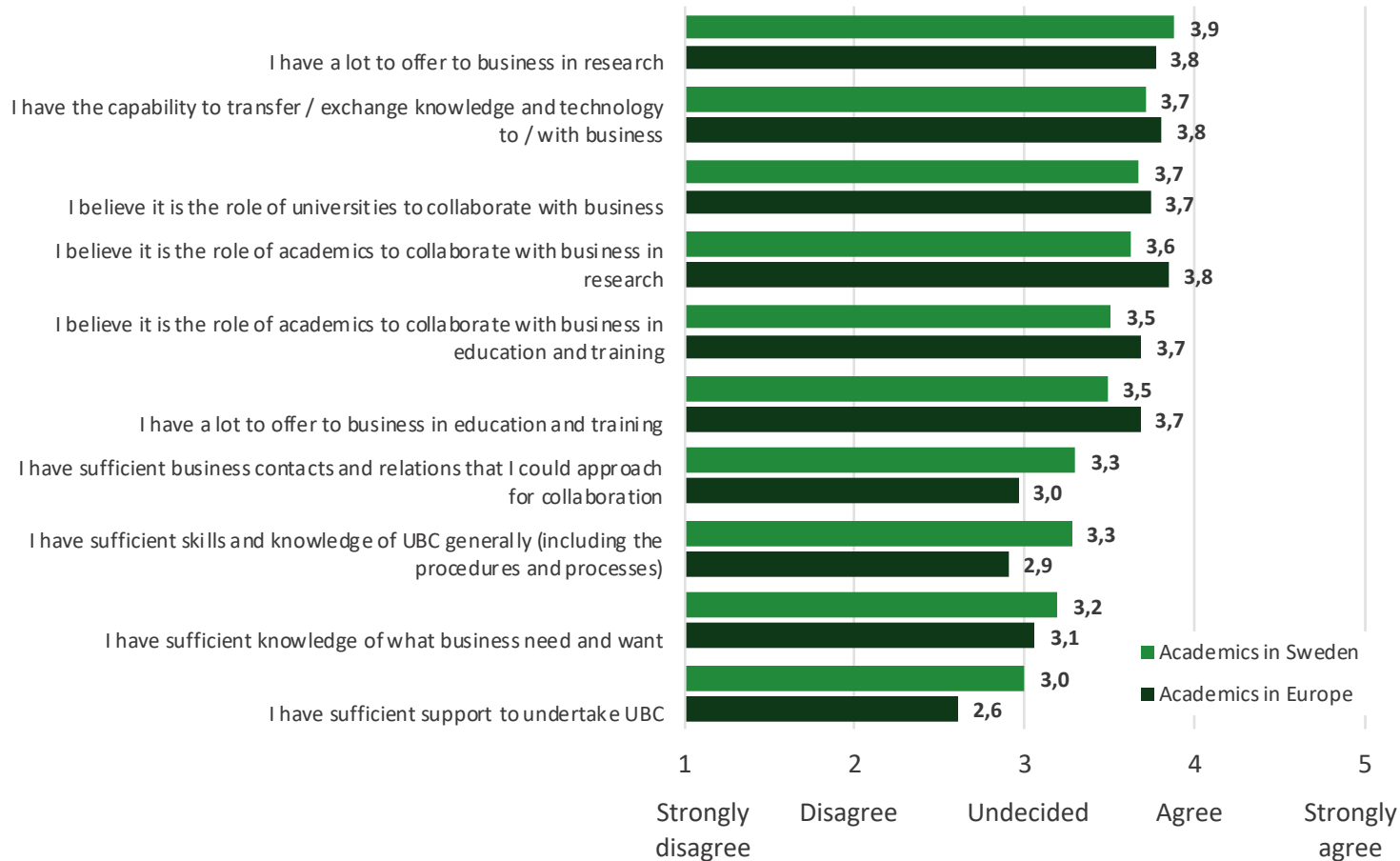
This section outlines how some contextual factors influence UBC in the country.



UBC capabilities

Capabilities for UBC

'To what extent do you agree or disagree with the following statements?' - as answered by academics



Swedish academics identify moderate UBC capabilities and beliefs about the role of UBC.

Swedish academics identified their strengths in the capability of doing research for companies (3.9) and transferring knowledge and technology (3.7).

They furthermore believe that it is their and universities role to collaborate with businesses in research and training.

However, Swedish academics consider their knowledge about UBC and business needs insufficient (3.3 and 3.2 respectively).

Generally, they lack support to undertake UBC (2.6).

Context

Swedish academics rate most contextual factors affecting UBC higher than European academics do.

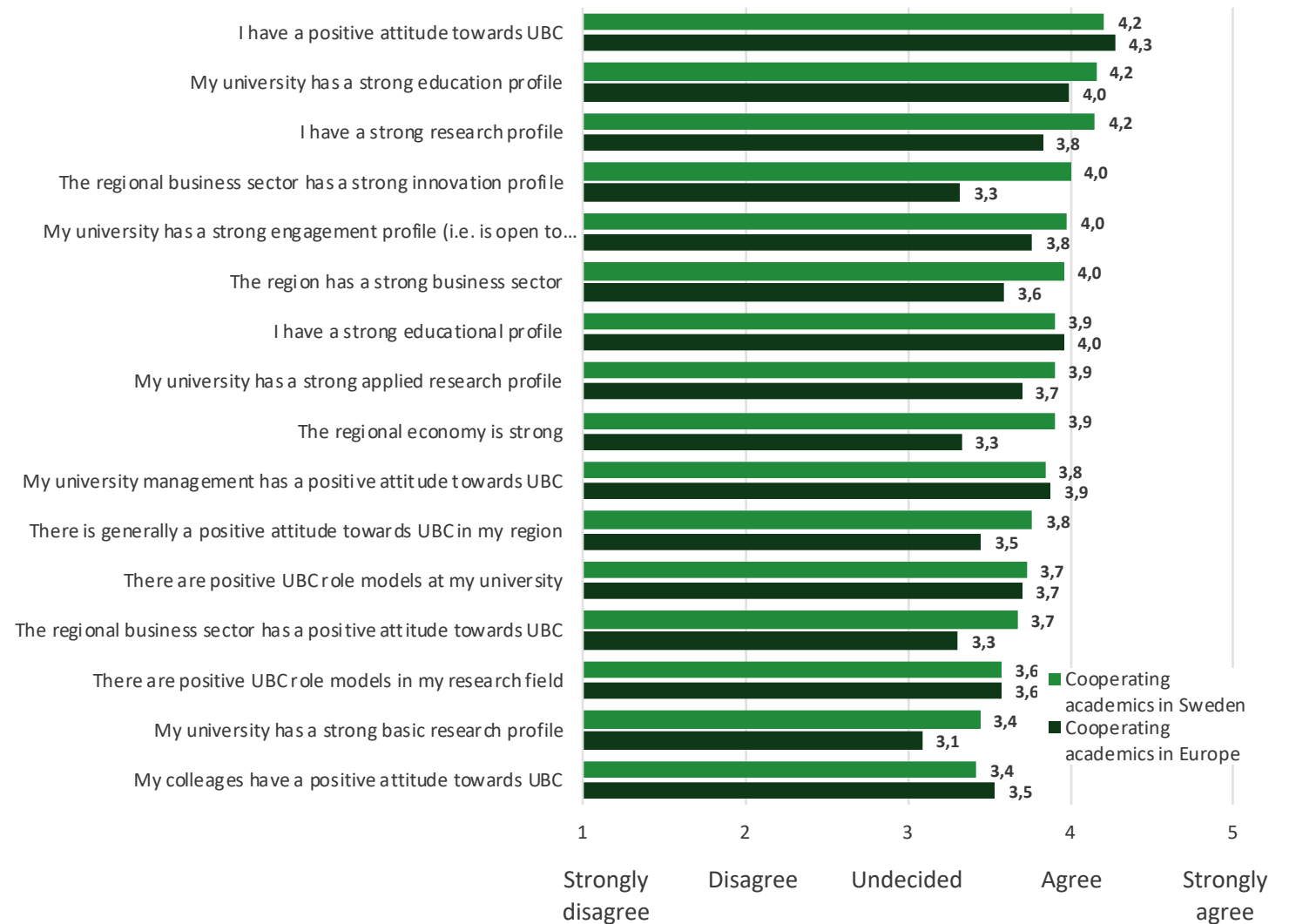
Overall, both groups have a positive attitude towards UBC and consider their universities to have a strong education profile.

Yet, Swedish academics perceive the strength of the regional business sector, its innovation profile and regional economy noticeably higher than their European counterparts.

On contrary, Swedish academics are less certain that their colleagues have positive attitude towards UBC, which is lower than European average.

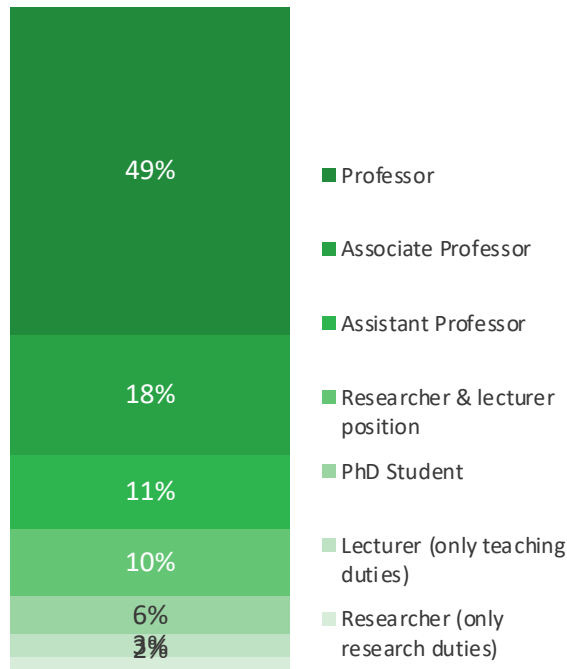
Contextual factors affecting UBC

'To what extent do you agree or disagree with the following statements?' - as answered by academics



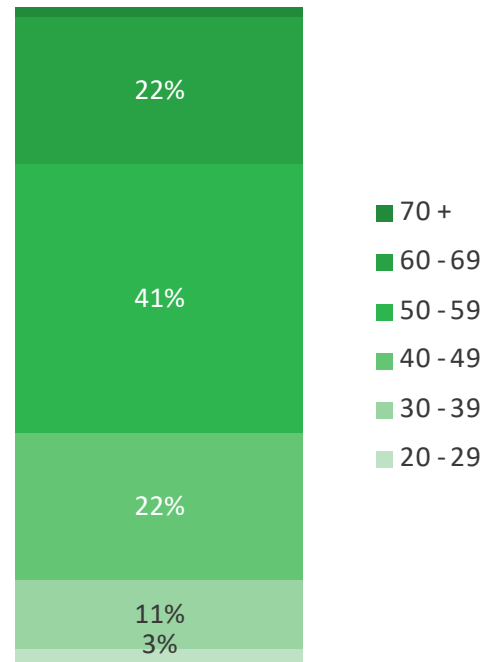
Respondent profile – academics

Position of respondent



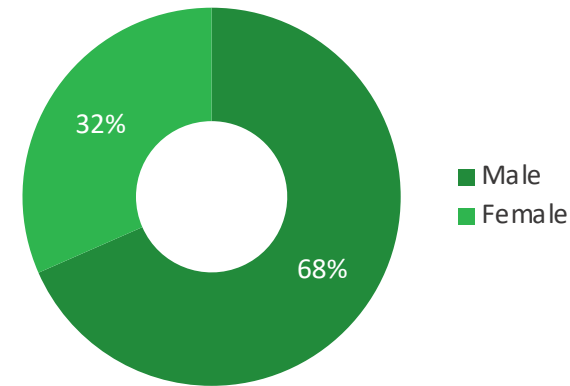
Assistant professors represent the largest group within Swedish academic sample (49%). It is followed by associate professors (18%) and assistant professors (11%). The remaining respondents identified themselves as researchers/lecturers (10%), PhD students (6%), lecturers (3%) and researchers (2%).

Age of respondents



The majority of Swedish academics in the sample are in their 50s (41%). 22% of the respondents are aged 40-49, and the same percentage of academics are in their 60s. 11% of academics are aged 30-39. Academics younger than 30 are only 3%.

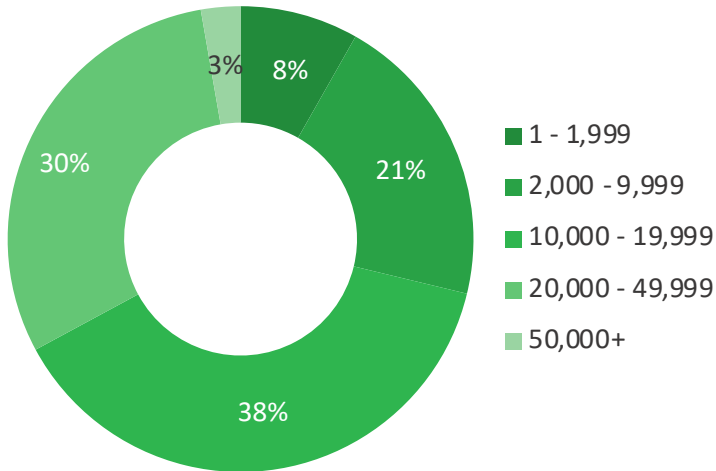
Gender of respondents



The gender distribution in the academic sample in Sweden is skewed towards male respondents, who represent 68% of the total sample.

Respondent profile – academics

Number of students of the HEI

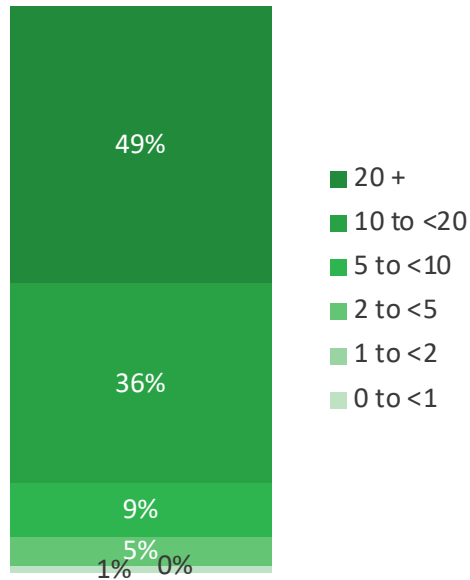


Sample Size	
Swedish Academics	n=99
European Academics	n=10.836
Swedish HEI representatives	n=62
European HEI representatives	n=3.482

38% of Swedish academics in the sample work for medium-sized HEIs (10,000 to 19,999 students), followed by 30% based in medium-large HEIs (20,000 to 49,999 students). 21% of all respondents work for small-size HEIs (2,000 to 19,999 students). Micro-sized HEIs (up 1,9999 students) are represented by 8% of respondents. Only 3% of the academics work at very large HEIs with over 50,000 students.

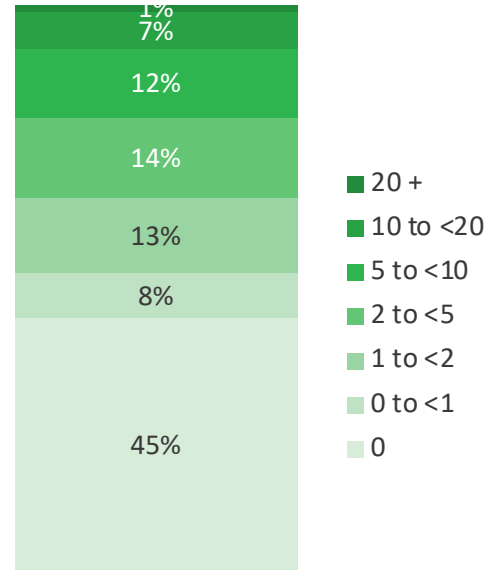
Respondent profile – academics

Years working in university



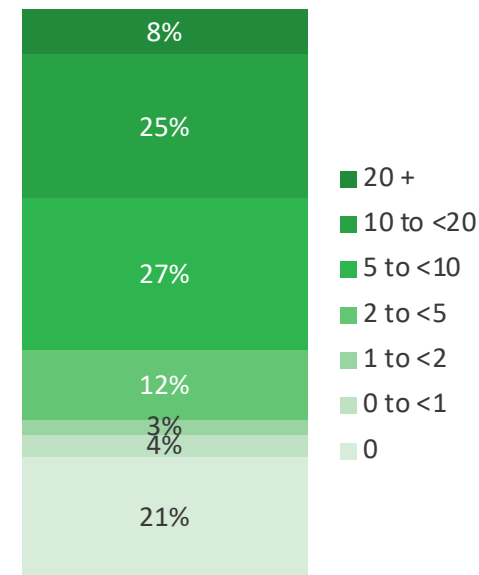
Almost a half of academics have worked in universities for over 20 years (49%). They are followed by 36% of academics who have 10-20 years of academic experience. 9% have worked for academia for 5-10 years and further 5% have done so for 2-5 years.

Years working in business



Over a half (53%) of academics have little or no industry experience. 27% of respondents worked for 1-5 years in industry before, while 12% have done so for 5-10 years. 7% have business experience of 10-20 years. Only 1% of respondents have worked in business for over 20 years.

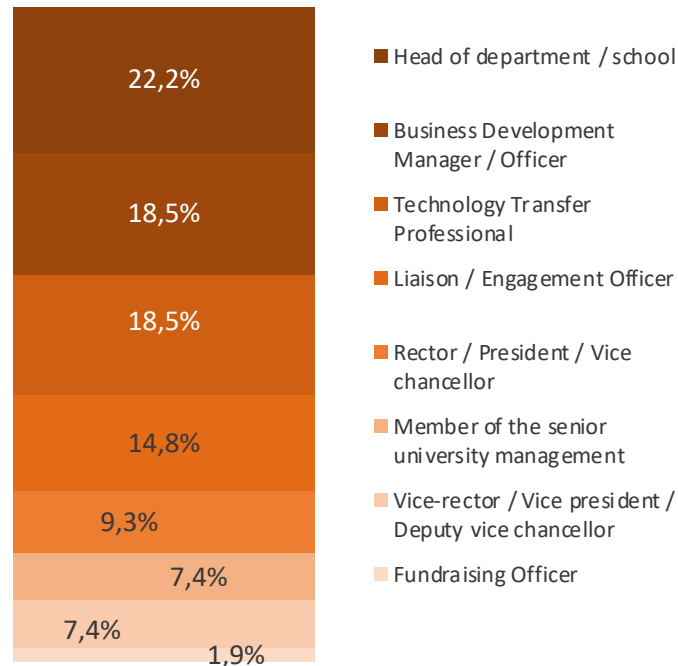
Years involved in UBC whilst working at a university or business



Most academic respondents in Sweden have some UBC experience. Although only 8% have been involved in UBC for over 20 years, 52% have 5-20 years of experience. 15% have been cooperating with businesses for 1-5 years. 21% of academics in the sample have never engaged in UBC.

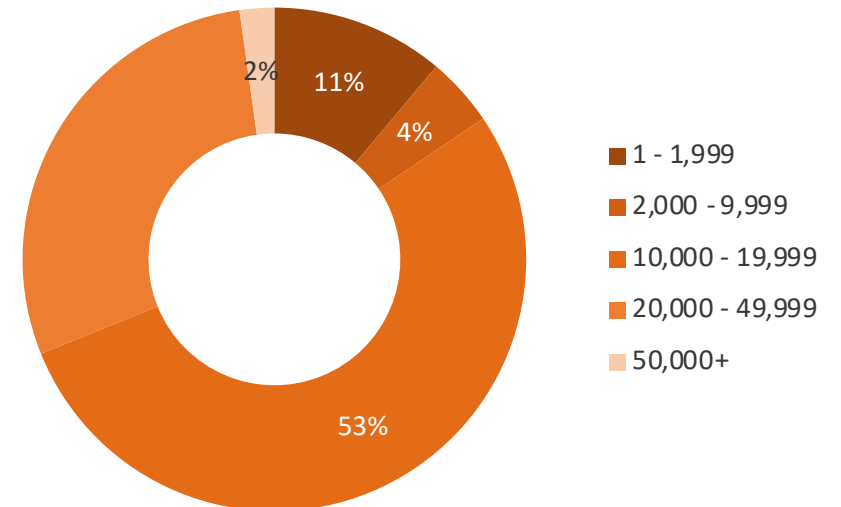
Respondent profile – HEI representatives

Position of respondent



Heads of departments/schools represent the largest group of Swedish HEI representatives (22%). 19% identified themselves as business development managers, and further 19% - as technology transfer professionals. Liaison/engagement officers constitute 15% of the sample. The remaining respondents identified themselves as rectors or presidents, members of senior university management or vice-rectors and fundraising officers.

Number of students of the HEI



Overall, over a half of HEI representatives work for medium-sized HEIs (10,000 to 19,999 students). 30% of Swedish sample are employed at large HEIs (20,000 to 49,999 students). Micro-sized HEIs (up to 1,999 students) are represented by 11% of sample. Only 4% of representatives work at small HEIs (2,000 to 9,999 students).

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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