



UNIVERSITY-BUSINESS
COOPERATION IN EUROPE

State of University- Business Cooperation

DENMARK

University Perspective

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



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The State of Danish 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 Denmark 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 99% of respondents currently cooperating with businesses planning to maintain or increase their cooperation in the future. In this sense, Denmark proves to be an attractive country for UBC.

Currently, the Danish UBC is less developed compared to the European average. Thus, there still is a room for further improvement, specifically in supporting academics in their cooperation efforts, including the allocation of work time for UBC activities 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 Denmark 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 275 Danish 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

Danish academics are involved in a variety of different cooperation types, with joint R&D, mobility of students and business consulting emerging as the most prevalent ones – more than 50% of respondents respectively cooperate in these activities. On the other hand, only 11% of academics report medium to high levels of cooperation in dual study programmes, ranking below the European average.

Respondents see themselves as proactive initiators of UBC, with 63% of respondents stating that they usually or always initiate such cooperation. In comparison, only 11% of respondents perceive external intermediaries as initiators.

Resourcing is key

Independent of whether academics are currently cooperating with business or not, insufficient work time allocated for UBC activities is identified by all academic respondents as one of the major barriers to UBC. While cooperating academics identify limited resources of SMEs as a significant barrier, non-cooperating academics are concerned with the differing motivations between universities and businesses.

Aligned with the perception of cooperating academics, HEI representatives are mostly hindered by the limited resources of SMEs. They also rate the lack of government and business funding along with differing time horizons between university and business as important barriers hindering their cooperation.

NOTE: This report provides a university perspective 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.

Relationships matter

While funding to undertake cooperation emerges as one of the top five facilitators, relational factors are likely to be of even higher importance for UBC. It is the existence of mutual trust, commitment, a shared goal and prior relations with the partner that facilitate and thus drive cooperation, from the perspectives of all HEI respondents. When developing UBC, any effort to enable and increase cooperation between businesses and universities should focus, in the first place, on the relationship-building.

Society matters

While academics perceive businesses as the stakeholder group that benefits from UBC the most, for HEI representatives these are the students.

But what motivates Danish academics and HEI managers to engage in cooperation with businesses? HEI representatives are motivated by the willingness to improve graduate employability and positively impact society. While non-cooperating academics are also driven to improve graduate employability, their biggest motivation relates to their own teaching. As for academics that already cooperate with businesses, they are motivated by the research-oriented benefits including new insights for research and its practical application.

Strategy above incentive systems

Universities in Denmark place a strong emphasis on developing supporting mechanisms for UBC. As evident in the data, high-level strategic

developments including top-level management committed for UBC, a documented mission/vision embracing UBC and a strategy supporting UBC are already in place and perceived as well developed, above the European average. Yet, specific incentive systems, the reduction in teaching time in exchange for extended cooperation and the practice of recruiting business professionals into the careers/alumni office emerge as less developed.

The most developed structural mechanisms in the given sample include agencies dedicated to UBC and lifelong learning programmes. 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 activities facilitating student interaction with businesses and student entrepreneurship courses. Academic entrepreneurship networks and courses, on the other hand, are perceived as less developed.

Positive attitude towards UBC

Academic respondents already cooperating with business have a very positive view of their abilities and roles in undertaking UBC. Danish academics generally have a positive attitude towards UBC and perceive their own and the universities' educational profile as strong.

Yet, academics in Denmark perceive a less positive attitude of their colleagues and the business sector towards UBC. They identified their strengths in the ability to do research with/for business as well as to exchange knowledge.

Introduction

About the study

The study focuses 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.



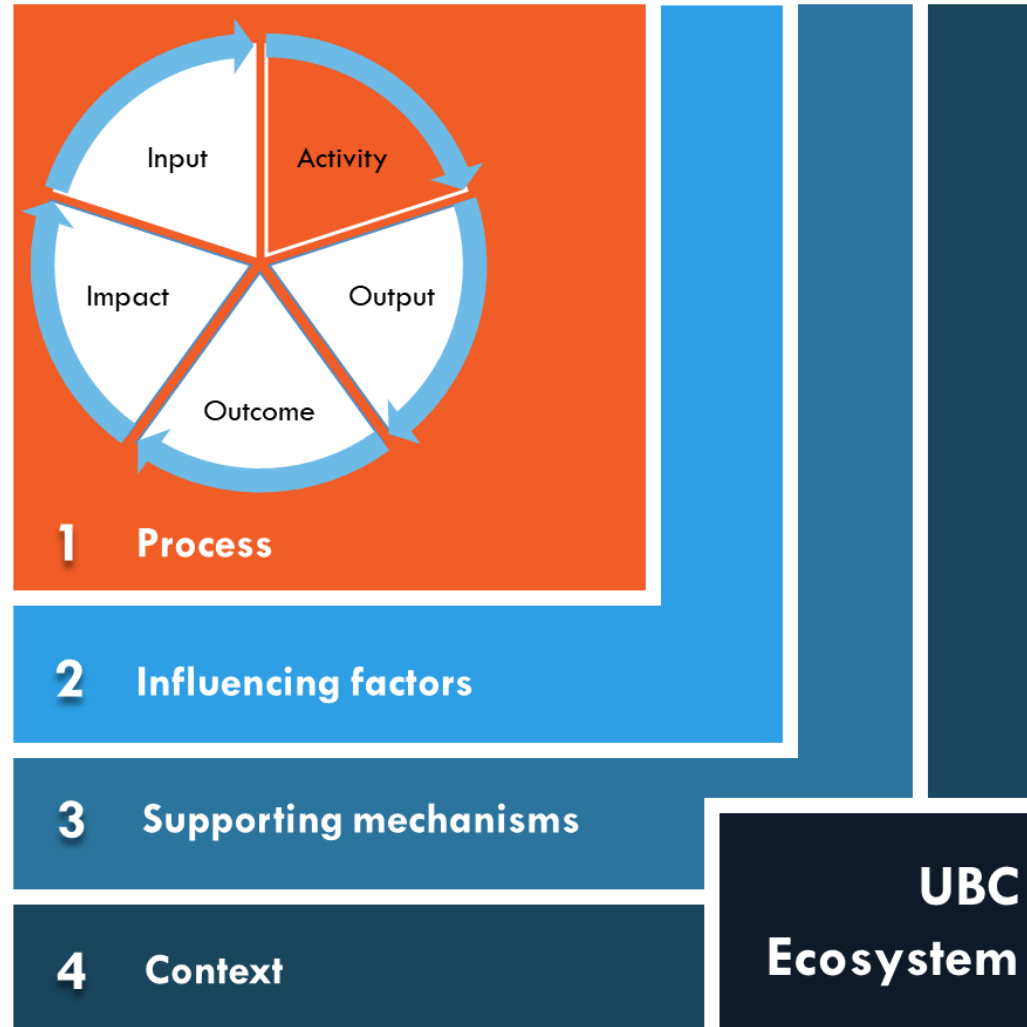
UBC activities

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

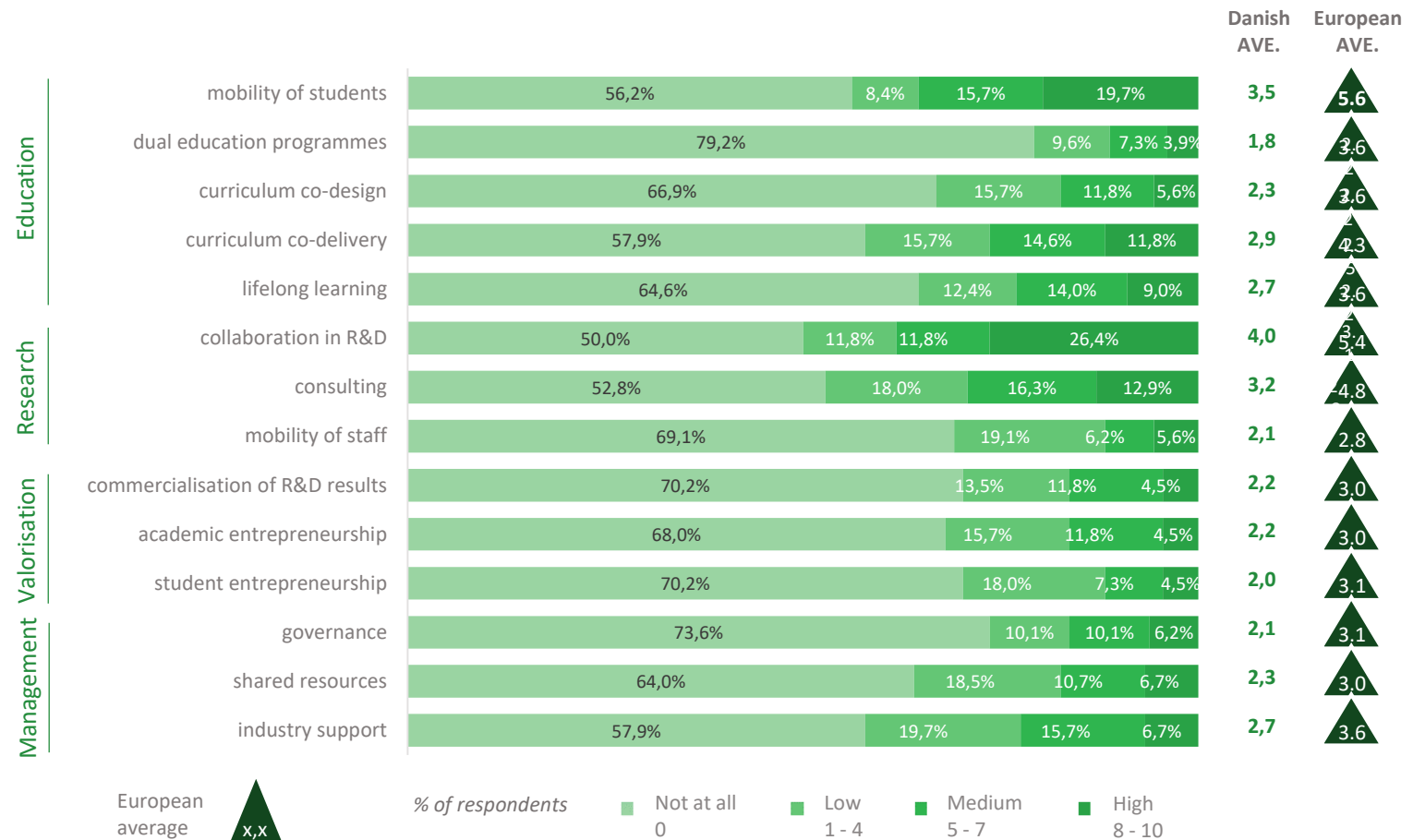
Development of UBC activities

The Danish Agency for Science, Technology and Innovation showed in 2011 that collaboration with a knowledge institution increased the labour productivity in R&D-active companies by 9% a year¹.

Despite this, UBC in Denmark remains low. Overall, Danish academics estimate that UBC activities are less developed than for their European counterparts.

Danish academics most commonly engage with business in joint R&D (4.0), mobility of students (3.5) and consulting (3.2). Yet, over half of them do not engage in these activities at all. The further UBC education and research activities are considerably less developed.

The development of UBC management and valorisation activities is particularly low. Over 60% of Danish academics do not undertake cooperation with businesses in these areas at all (with the exception of industry support).

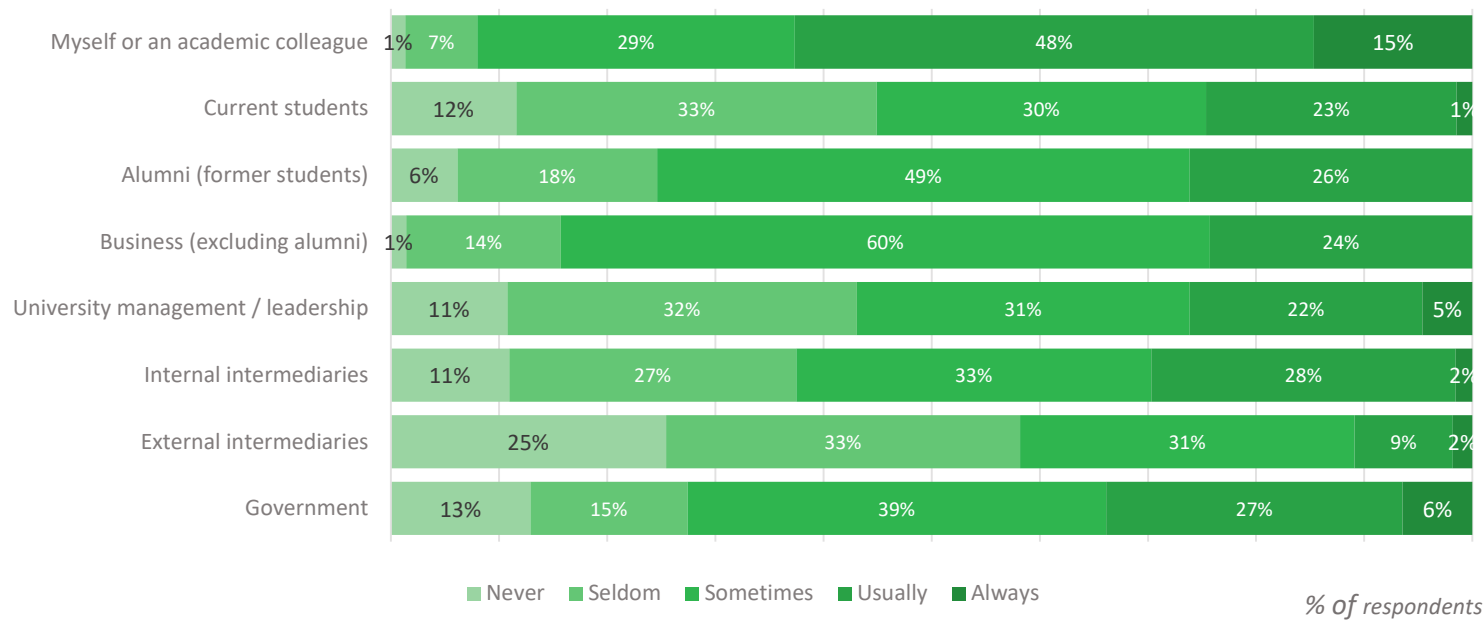


¹Christensen, T., Frosch, H., & Jensen, D. (2014). Analysis of the Danish Research and Innovation System. Danish Agency for Science, Technology and Innovation

Initiation of UBC

How UBC is initiated

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



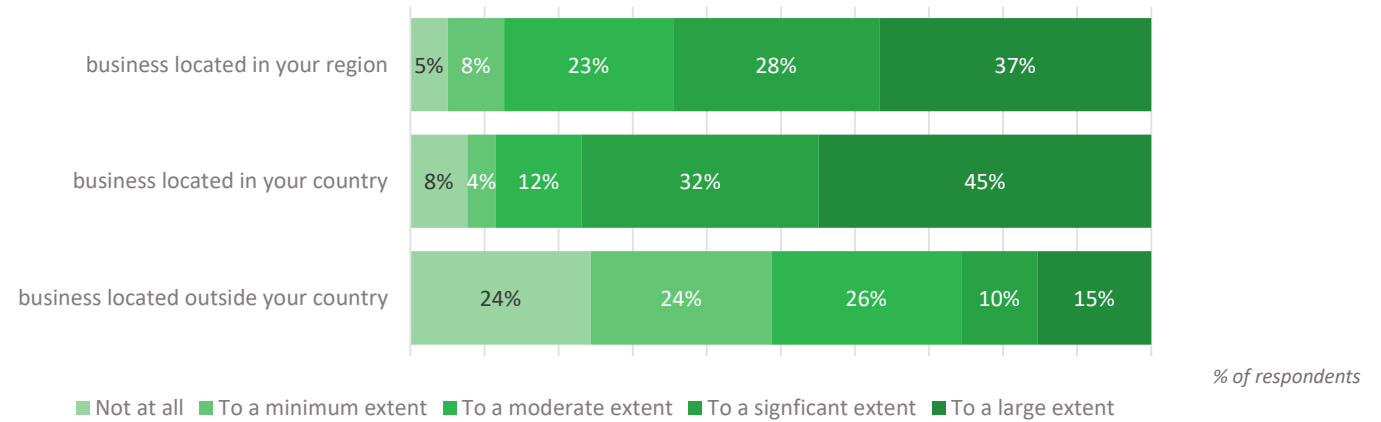
63% of Danish academics perceive themselves as the most active UBC initiators.

Government (33%) and university management (24%) are also considered initiators of cooperation. Government and regional bodies have specifically introduced several initiatives in Denmark to promote interaction between HEIs and business, such as industrial PhDs and the programme 'employ first academic'.

Contrary, academics perceive that external intermediaries and current students are those stakeholders that less often initiate UBC. This could be explained by a lack of knowledge about the possibilities of collaboration between HEIs and enterprises, which points out a flaw in the Danish innovation system.

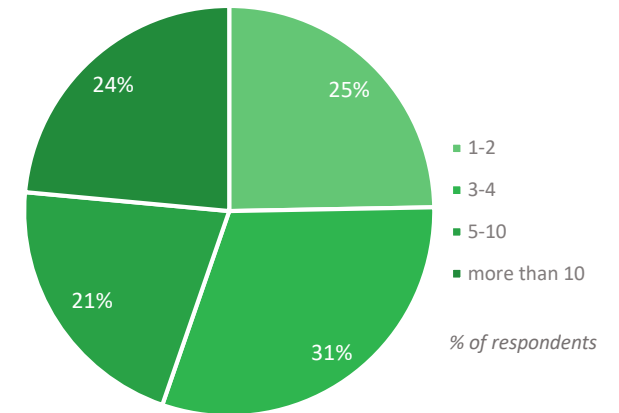
Location of cooperating partners

Location of business partners



Academics in Denmark focus on collaboration with regional (65%) and national (77%) businesses. Only 25% of academics indicate significant or high cooperation with international businesses.

Number of business partners

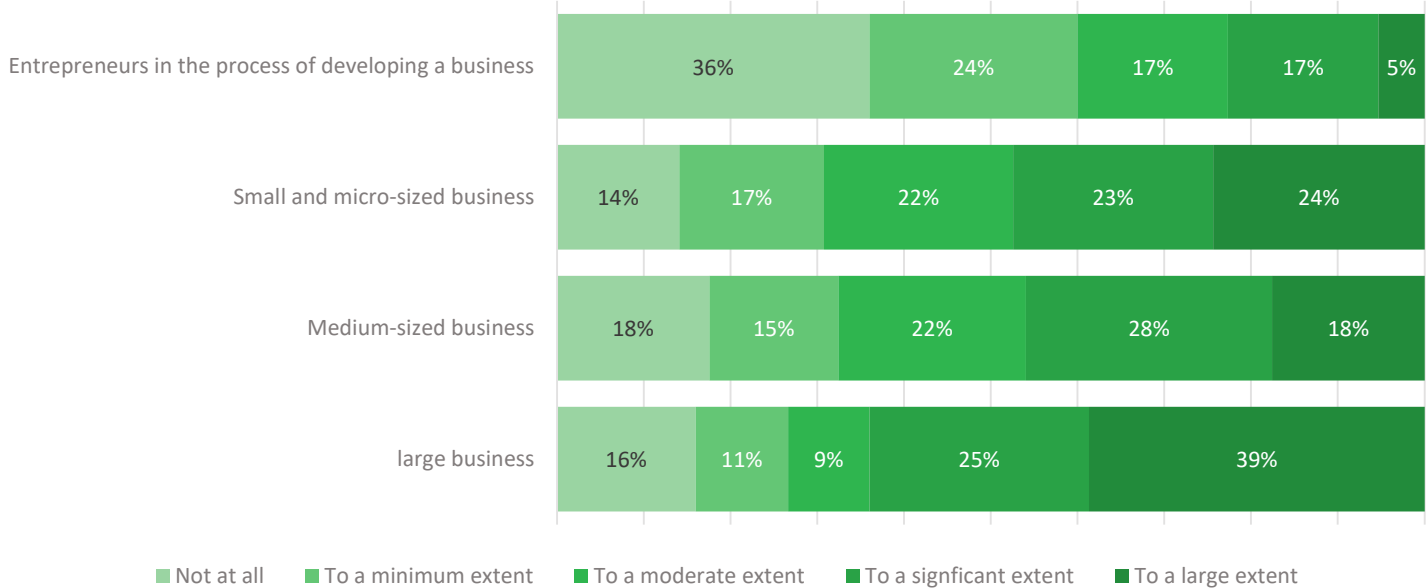


Over half of Danish academics (53%) cooperate with four businesses or less while 24% have established relations with over 10 business partners and 21% with 5 to 10 businesses.

Size of cooperating partners

Size of cooperating partner

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



The larger the business the more likely it is to cooperate with a Danish academic. To a large extent, Danish academics are incentivised by research publications, and the likelihood of producing publications is considerably higher with larger companies.

64% of cooperating academics in Denmark engage to a significant or large extent with large businesses. This cooperation is reduced to 46% for medium businesses, 47% for small and micro-sized businesses and 22% for entrepreneurs.

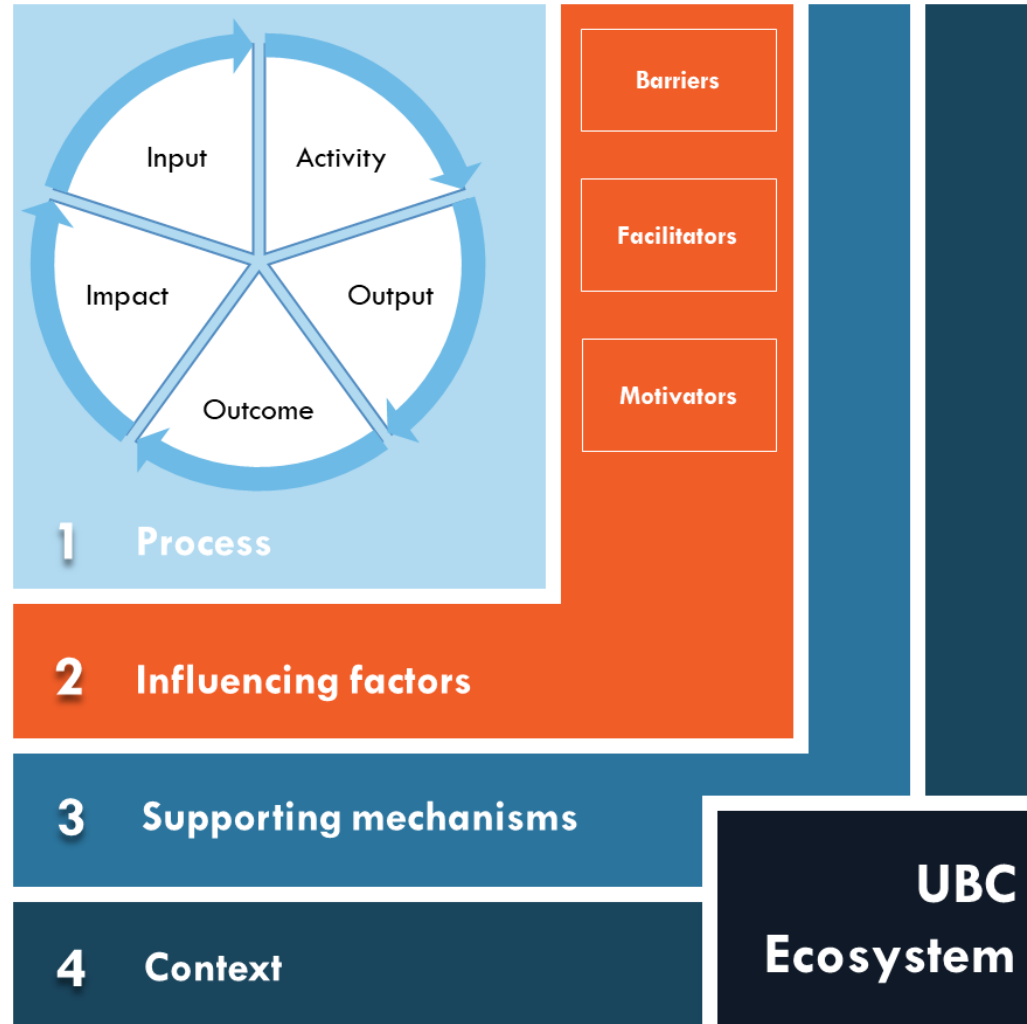
Factors influencing UBC

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

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	Insufficient work time allocated by the university for academics' UBC activities
3.	Insufficient work time allocated by the university for academics' UBC activities	The focus on producing practical results by business
4.	Business lack awareness of university research activities / offerings	Difficulty in finding the appropriate collaboration partner
5.	Lack of business funding for UBC	Business lack awareness of university research activities / offerings
<i>Lowest</i>	Frequent staff turnovers within my university or the business	Frequent staff turnovers within my university or the business

The perspectives of cooperating and non-cooperating Danish academics differ in relation to barriers hindering UBC.

While cooperating academics are mostly hindered by the limited resources of SMEs, the biggest barrier for their non-cooperating counterparts is the differing motivation and culture generally between two organisations.

Insufficient work time allocated for academics and business' lack of awareness of university research activities are UBC barriers for both groups.

Work time in Danish HEIs is primarily allocated for research and research based education. If it is perceived that UBC doesn't contribute to and enhance research, collaboration will be less prioritised.

Both cooperating and non-cooperating academics also agree that frequent staff turnovers within university or business is the weakest barrier.

Barriers hindering UBC

Danish academics perceive most barriers lower than their European counterparts.

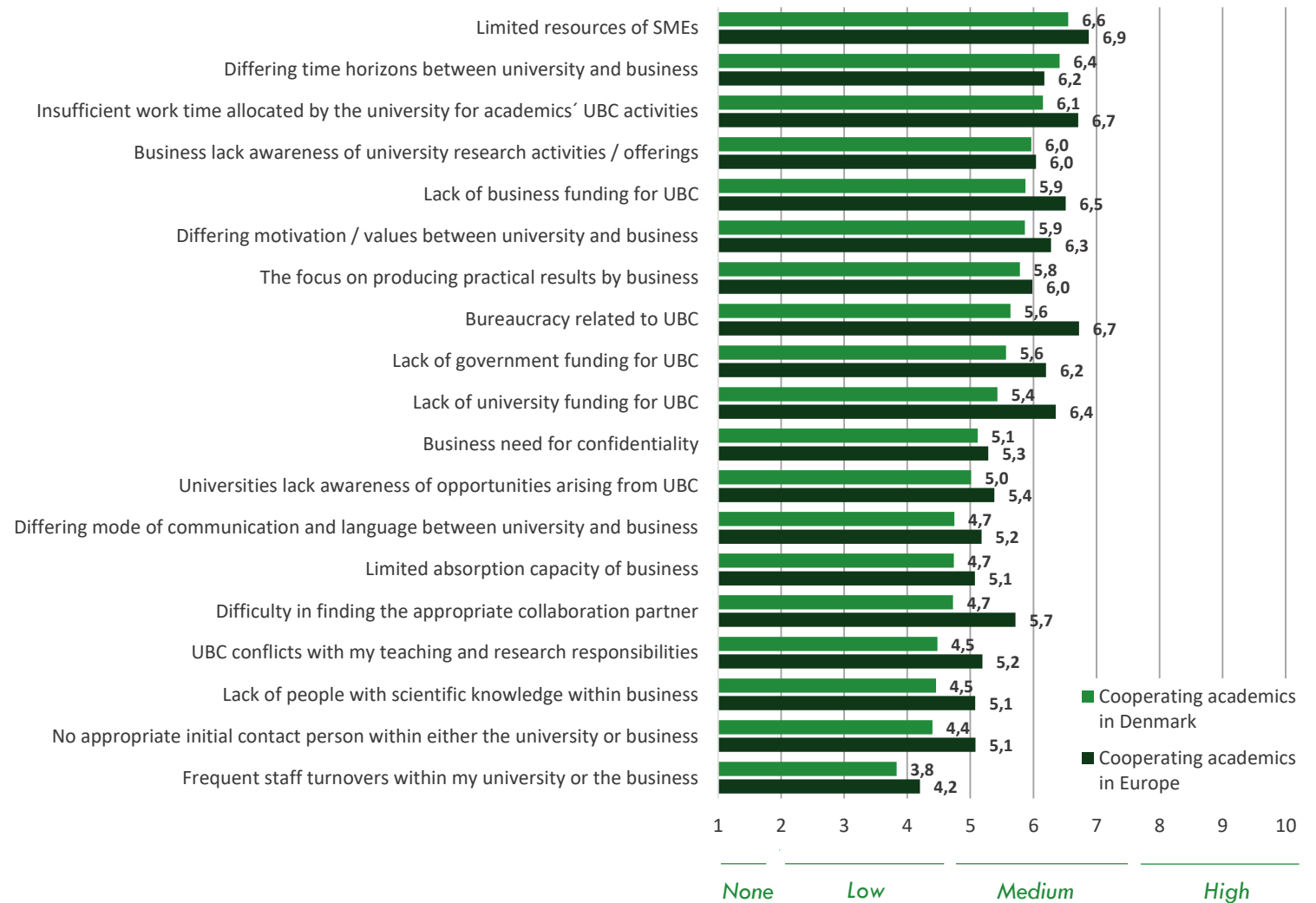
Limited resources of SMEs is the main barrier for both, Danish and European academics. Micro, small and medium-sized enterprises represent 99.4% of all businesses in Denmark¹. Even though Danish SMEs perform very well in comparison with the average, they still have limitations with respect to their financial resources that makes UBC more difficult for them than for large enterprises.

Danish academics are notably less hindered than their European counterparts by bureaucracy related to UBC, lack of funding coming from government and university along with the difficulty in finding the appropriate collaboration partner.

Frequent staff turnovers is the weakest barrier for both groups, however, it is also less hindering for Danish academics than for European academics.

Barriers

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

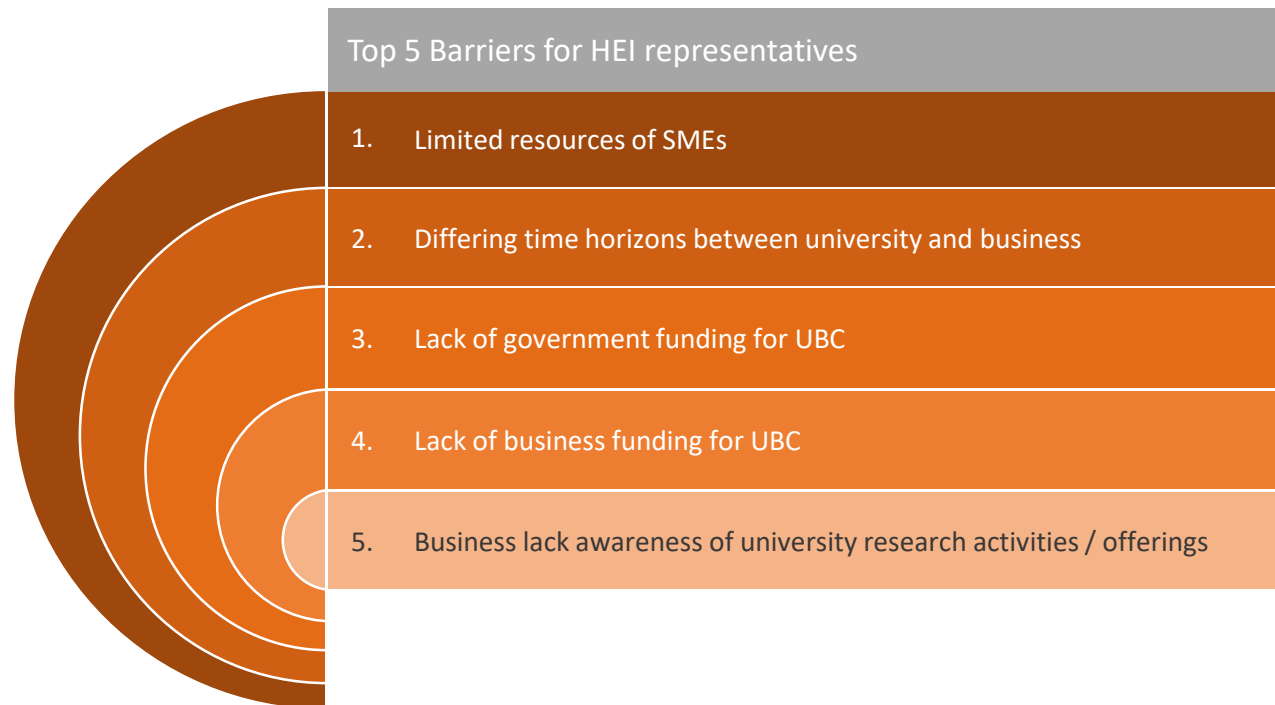


¹Danish National Report (2012). SMEs and competition rules.

Barriers hindering UBC

Barriers

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



Danish HEI representatives are inhibited to engage in UBC mainly by a lack of resources. Just like for the cooperating academics, the limited resources of SMEs emerges as the major barrier to UBC.

The different time horizons between university and business can also significantly inhibit UBC in Denmark.

The lack of business awareness of university research activities/offerings is further barrier.

Barriers hindering UBC

Although Danish HEI representatives perceive most of barriers lower than their European counterparts, their perspectives align.

For both Danish and European HEI representatives resources and time related factors are the most inhibiting.

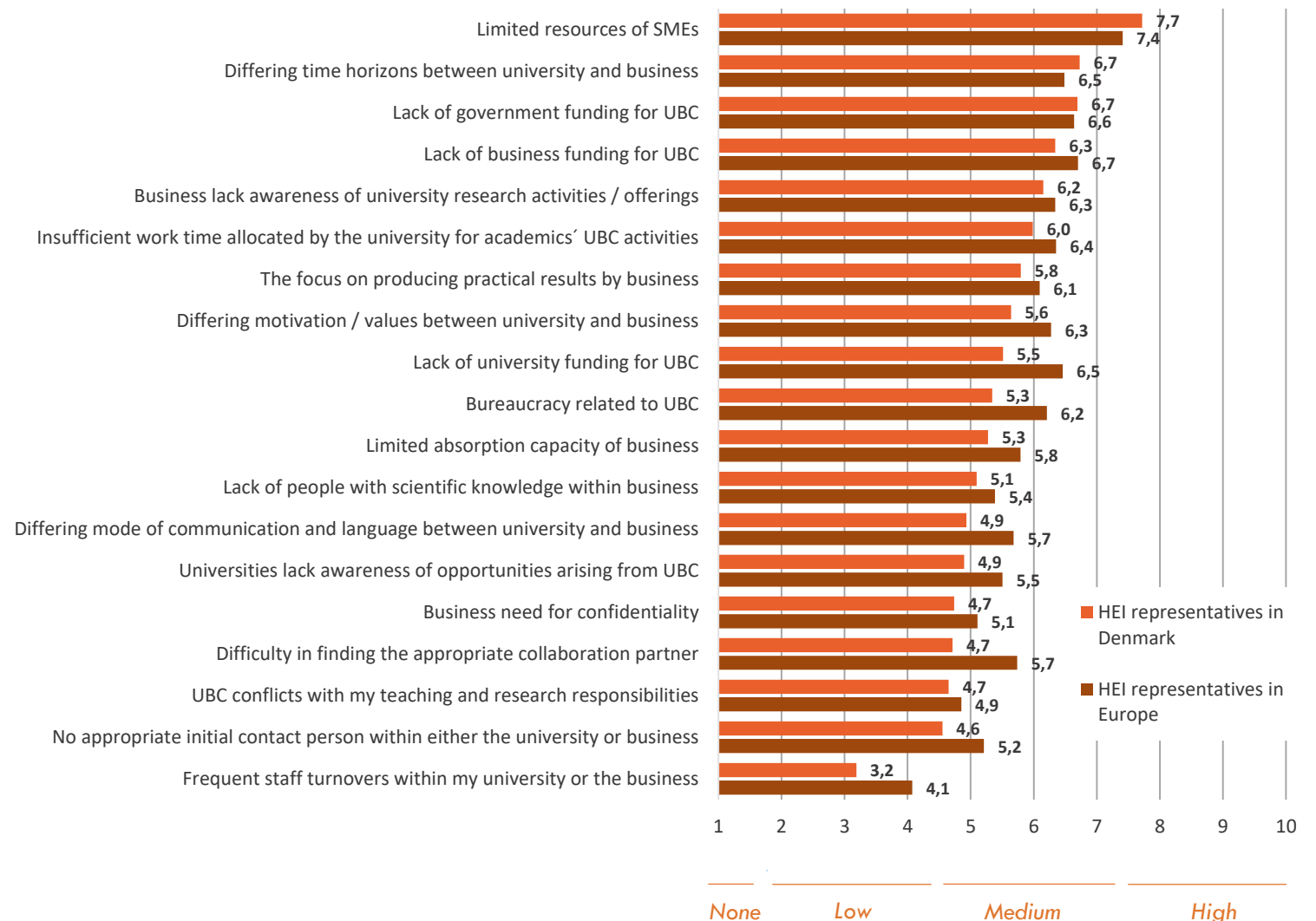
As basic funding volumes for research are decreasing in Denmark, there is a growing focus on European and high profile research programmes. These programmes are highly competitive and demanding for HEIs to pursue. Thus the time and resources that could have been allocated for UBC activities, are often redirected to funding activities.

The lack of university funding, bureaucracy related to UBC and difficulty in finding appropriate partner are significantly less inhibiting for Danish HEI representatives.

The frequent staff turnovers within the university or in businesses is the weakest 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 factors that facilitate UBC for both Danish academics and HEI representatives are identical.

Four out of the five facilitators focus on the relationship aspect of UBC, highlighting the importance of mutual trust, mutual commitment, shared goal and existence of prior relations for successful UBC. Danish UBC is to a large extent done with regional partners, meaning that the trustful relationships are built mainly based on existing research activities, maintained and strengthened over time.

The existence of funding to undertake UBC are also recognised by both groups. Currently, a number of national and regional programmes is provided also to secure UBC funding for different activities.

Facilitators

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



	Academics cooperating	HEI representatives
1.	Existence of mutual trust	Existence of mutual trust
2.	Existence of funding to undertake the cooperation	Existence of funding to undertake the cooperation
3.	Prior relation with the business partner	Existence of mutual commitment
4.	Existence of mutual commitment	Prior relation with the business partner
5.	Existence of a shared goal	Existence of a shared goal

Drivers stimulating UBC

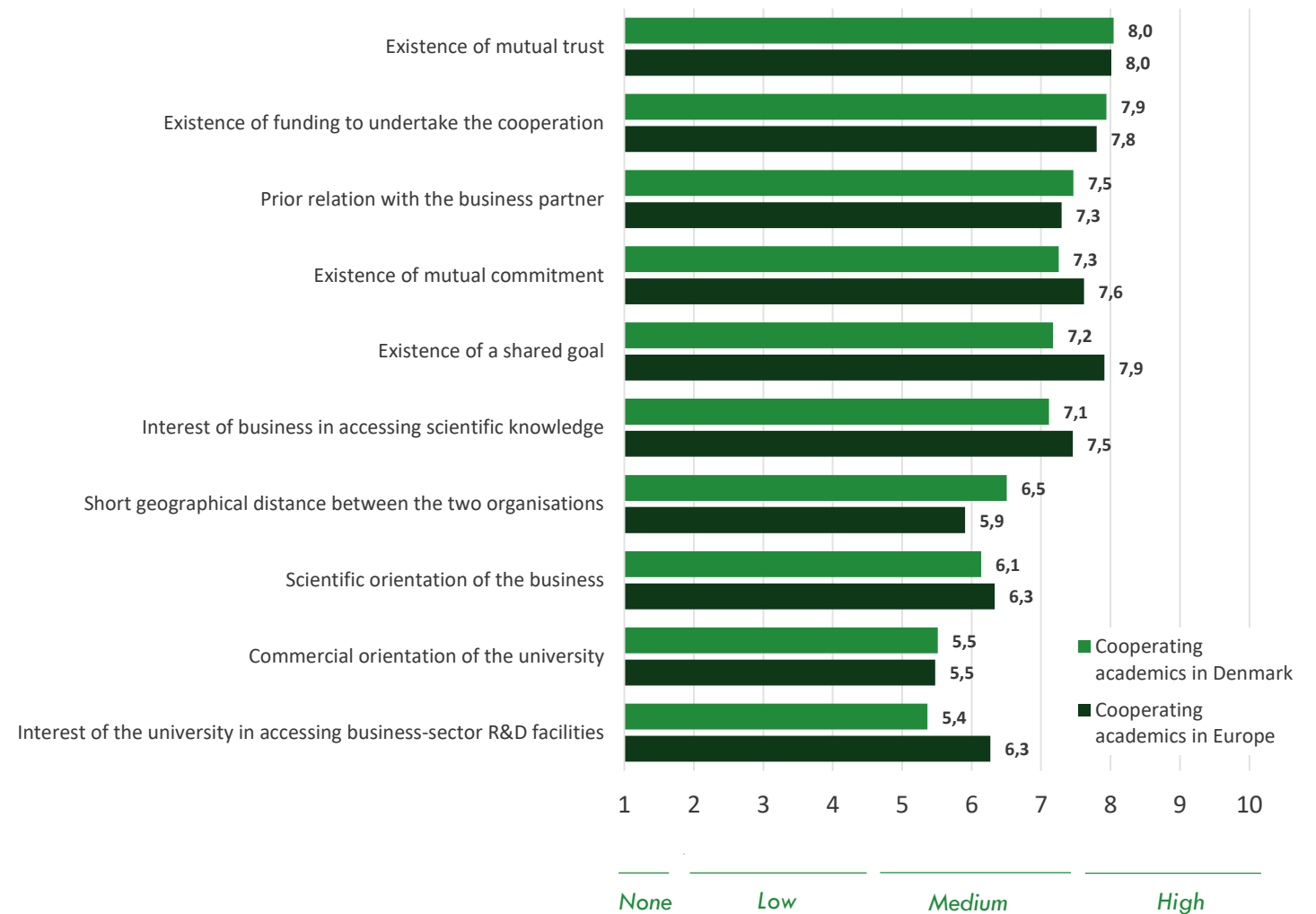
European and Danish perceptions of UBC facilitators align.

For both groups, the most important facilitators are those related to the relationship component of UBC along with funding. The academics highlighted the existence of mutual trust, a prior relation with the business partner, mutual commitment and a shared goal among the most important facilitators positively influencing their cooperation with businesses.

The interest of the university in accessing business-sector R&D facilities emerges as the least strong facilitator for Danish academics.

Facilitators

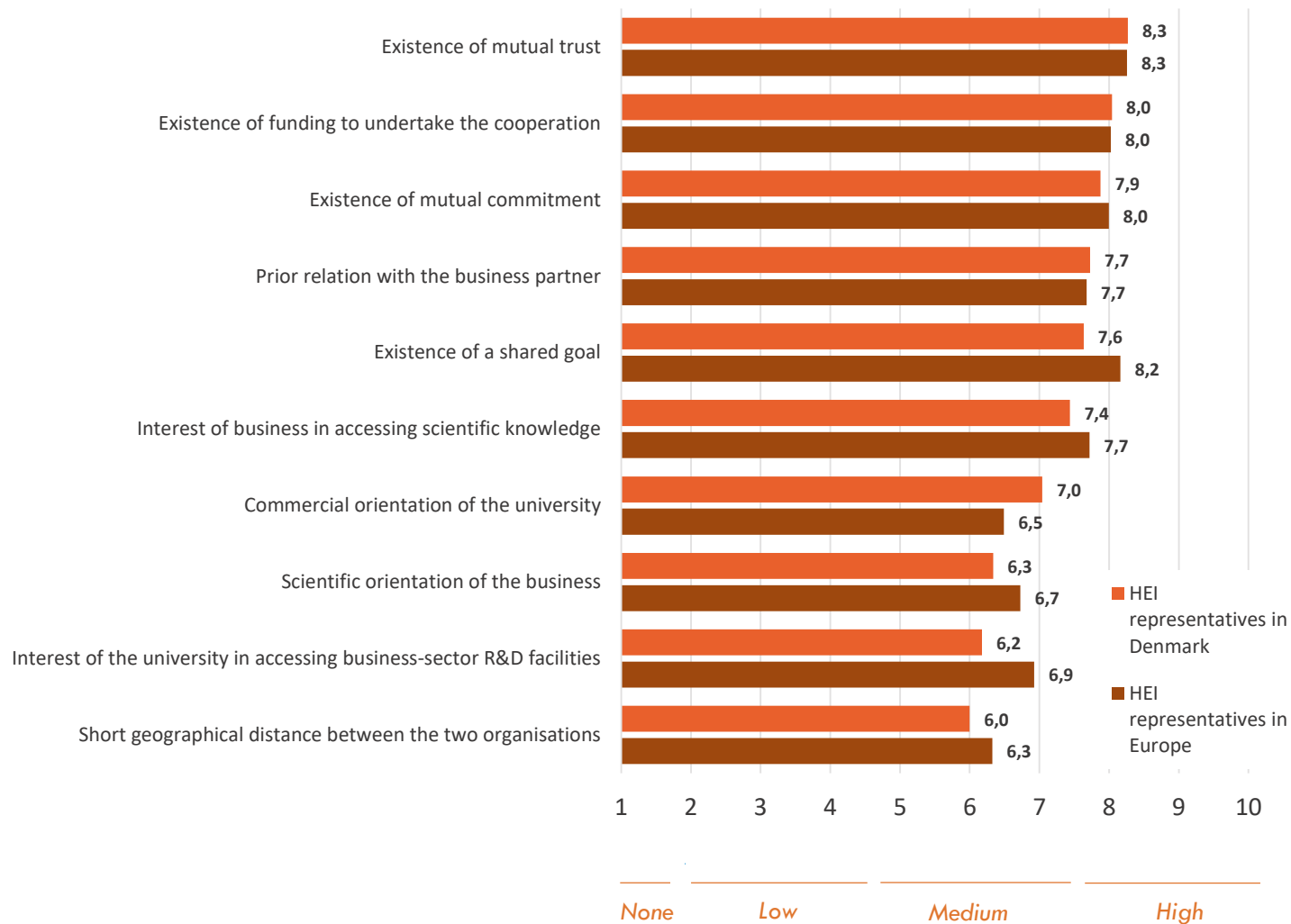
'What is facilitating your cooperation with business?' – as answered by academics



Drivers stimulating UBC

Facilitators

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



Danish HEI representatives and their European counterparts perceive the facilitators in a very similar way.

For both groups, the most important facilitators also relate to the relationship aspect of UBC and funding. This is consistent with the perception of Danish academics.

The interest of business in accessing scientific knowledge also plays an important role.

Drivers stimulating UBC

Danish cooperating and non-cooperating academics have different views on motivators that drive them to undertake collaboration with business.

While cooperating academics highlight research motivations, such as gaining new insights and its practical application, their non-cooperating counterparts perceive the drivers for UBC to be the willingness to improve teaching and graduate employability.


Denmark has a leading position in the world regarding production of high-class scientific research. Related with this, drivers are very often linked to the advancement of research or research based education.

Furthermore, both cooperating and non-cooperating academics are motivated by the willingness to address societal challenges and to contribute to the mission of the university.

Notably, funding as motivator plays an important role only for cooperating academics.

Motivators

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

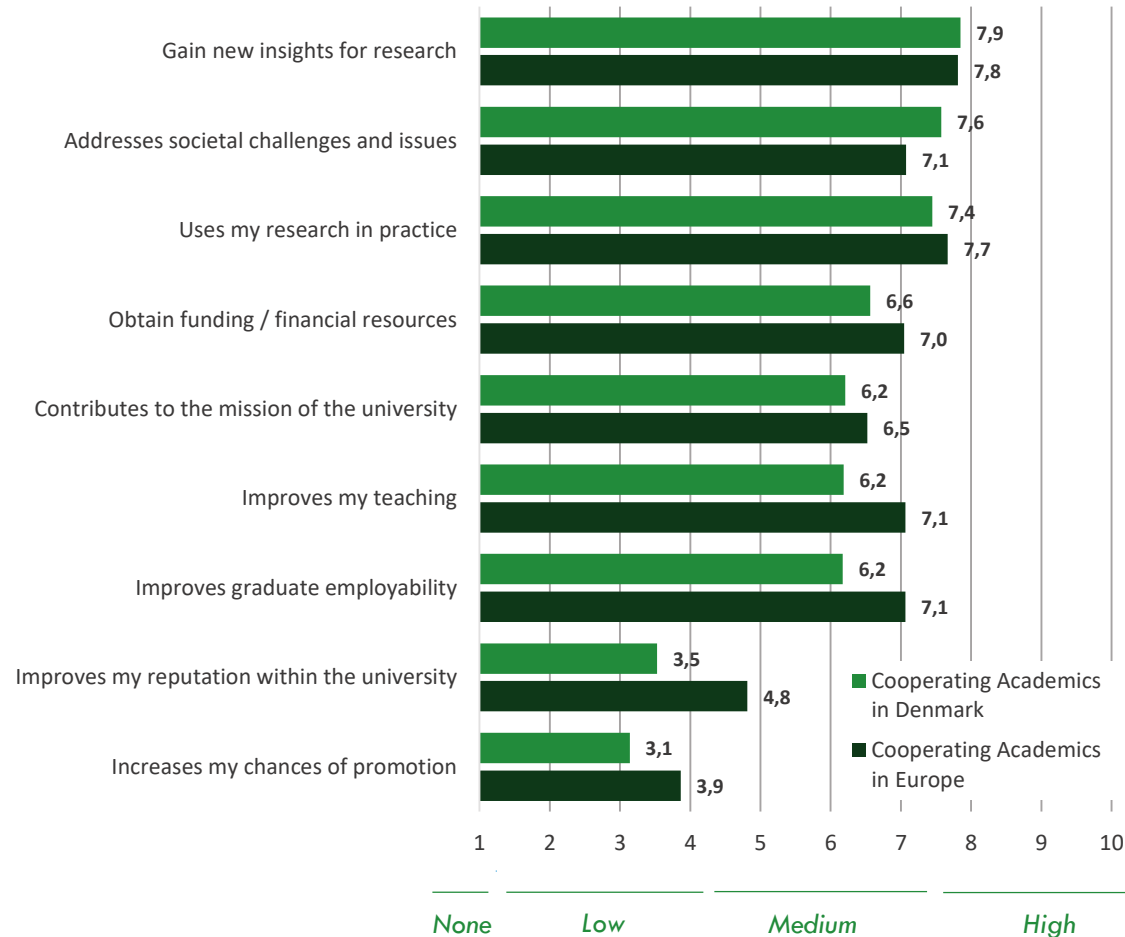


	Academics who cooperate	Academics who <u>do not</u> cooperate
1.	Gain new insights for research	Improve my teaching
2.	Address societal challenges and issues	Improve graduate employability
3.	Use my research in practice	Address societal challenges and issues
4.	Obtain funding / financial resources	Contribute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

Drivers stimulating UBC

Motivators

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



The perceptions of UBC motivators of Danish and European academics differ. However both groups agree on the importance of motivators related to research and willingness to address societal challenges.

There is a strong focus placed on excellent research in Denmark. An increasingly used method for facilitation UBC has been through 'Grand Challenges', which have the two collaborators combining to solve social issues.

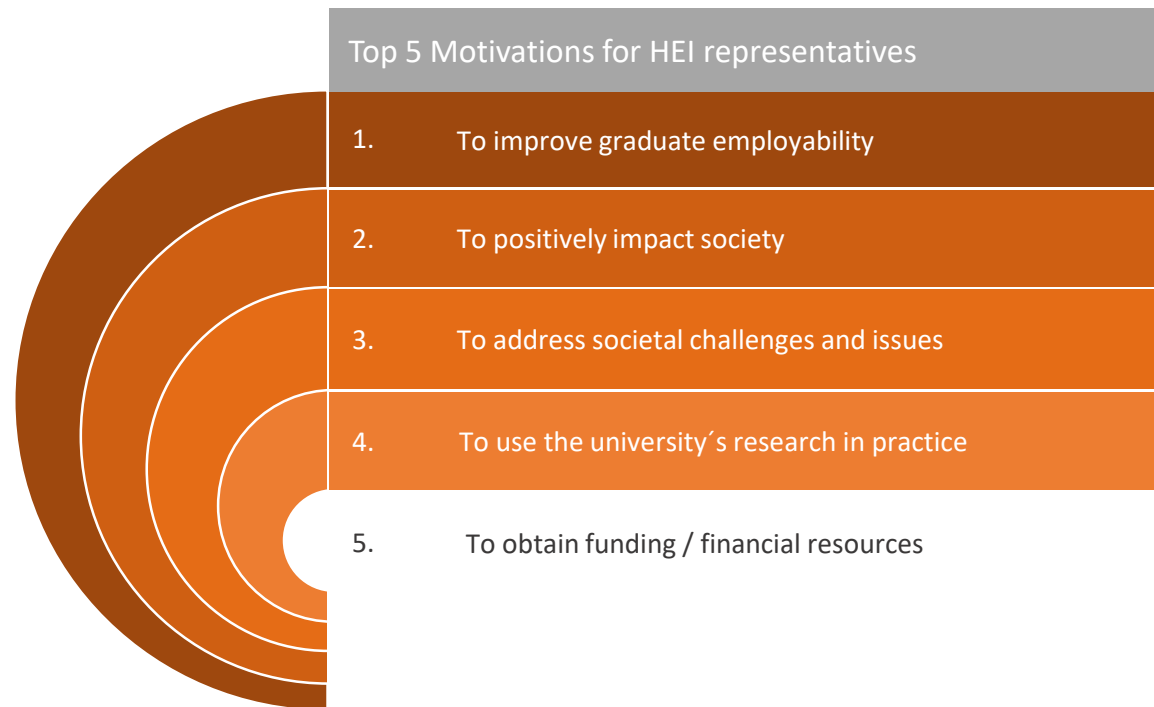
In comparison to the European average, Danish academics are less motivated to undertake UBC for the reasons of improving teaching and graduate employability.

Notably, promotion and reputation related motivators are the weakest drivers stimulating UBC for both groups, although perceived stronger by European academics.

Drivers stimulating UBC

Motivators

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



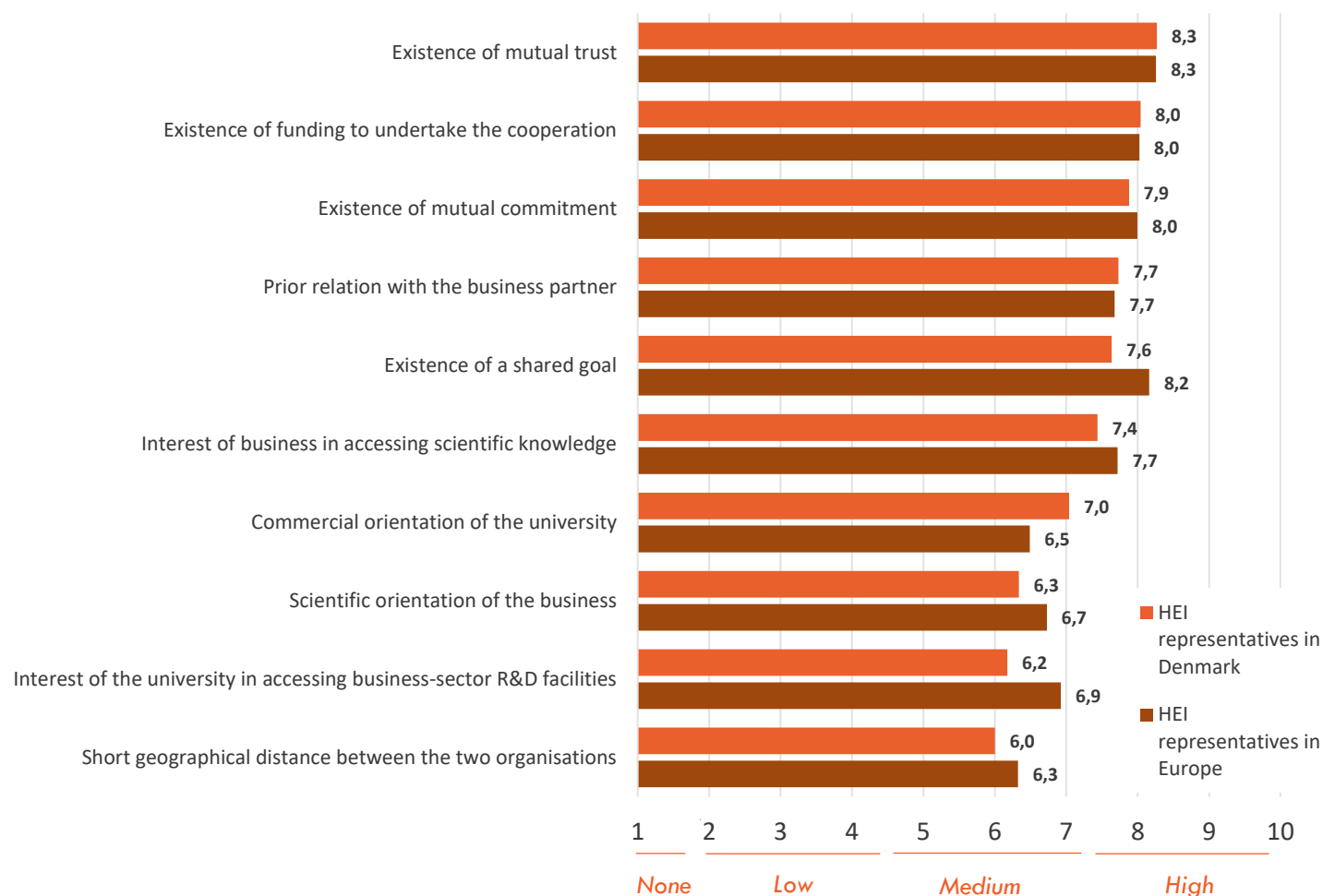
HEI representatives are more motivated by the benefits that other stakeholders can get from UBC. Thus motivators focused on graduates and society have the highest importance for academics in Denmark.

Universities are increasingly evaluated based on their ability to improve employability. This has led to cutting down education programmes with high unemployment numbers and an increased focus on creating opportunities for graduates.

Drivers stimulating UBC

Motivators

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



Danish HEI representatives perceive motivators similarly to their European counterparts.

Improving graduate employability is perceived as the strongest motivator for both. Further important motivations focus on the benefits that UBC can bring to society.

The employment rate of recent higher education graduates is 86.4% (2016) above the EU average (82.8%)¹. Yet, the recent growth in student enrolment is taking place in 'less employable' subject areas. In 2014, based on unemployment statistics, the Minister of Higher Education and Science announced restrictions on the number of study places each programme is allowed to offer each year. The objective of this measure is to transfer student admission from programmes with notable higher unemployment among graduates to programmes that have better employment prospects.

¹ European Commission (2017), Education and Training Monitor Denmark.

Benefits of UBC

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

While academics perceive businesses as the stakeholder group that benefits from UBC the most, for HEI representatives these are students.

Notably, academics perceive society as one of the main UBC beneficiaries, whereas they see considerably less benefits for university stakeholders.

Academics and the Danish government are believed by both groups to gain little benefits from UBC.


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

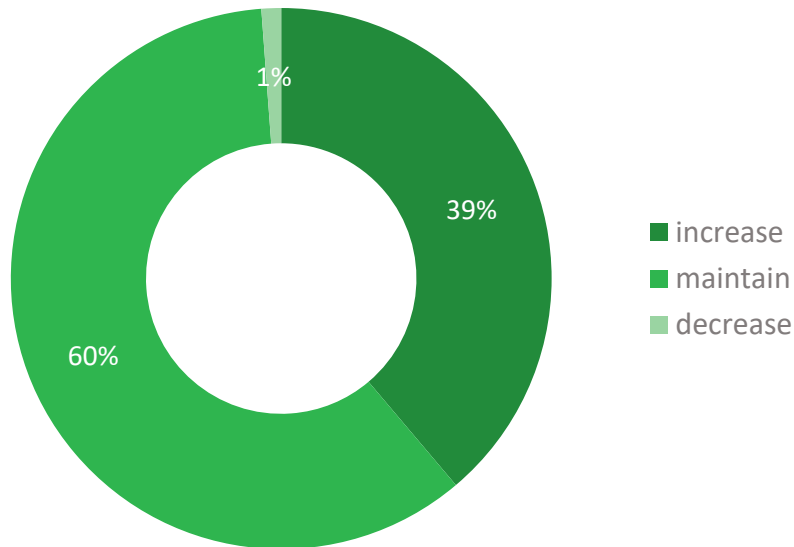


	Academics	HEI representatives
1.	Businesses	Students
2.	Society	Businesses
3.	Students	Universities
4.	Universities	Society
5.	Academics	Academics
6.	Government / public authorities	Government / public authorities

Future intentions

Future UBC intentions – Denmark

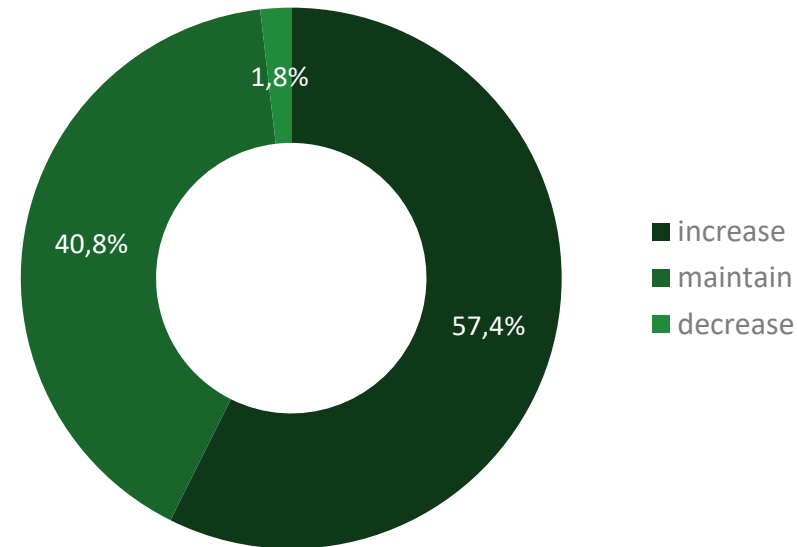
As answered by Danish academics



Danish academics showed a very strong commitment to the UBC, with 99% of them expecting to 'maintain' or 'increase' their cooperation.

Future UBC intentions – EUROPE

As answered by European academics



Academics in Europe expressed even stronger commitment, with 57,4% of responding academics expecting to 'increase' their cooperation.

Willingness to recommend UBC

The willingness of Danish cooperating academics to recommend to a colleague to engage in UBC varies depending on whether this cooperation is in research or in education.

Danish academics are equally satisfied with UBC in research as their European counterparts (NPS=14). While 41% of them will promote it positively, 27% would do it negatively.

Both Danish and European academics are less satisfied in education-related UBC (NPS = -11 for Danish and -13.8 for European academics).

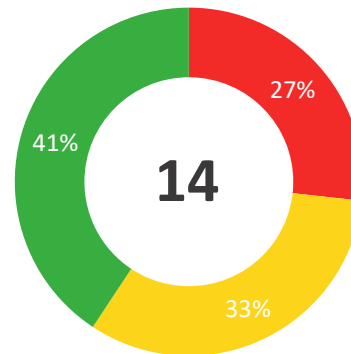
Willingness to recommend to an academic colleague cooperation with business in R&D and education

As answered by academics

	Detractors	Passives	Promoters	Net promotor score
Academics cooperating in E&T	46%	20%	34%	-11
Academics cooperating in R&D	27%	33%	41%	14

Satisfaction in cooperation with businesses (net promotor score)

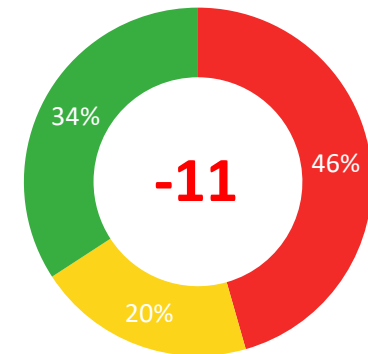
Academics cooperating in research



■ Detractors ■ Passives ■ Promoters

European academics' NPS result: 17

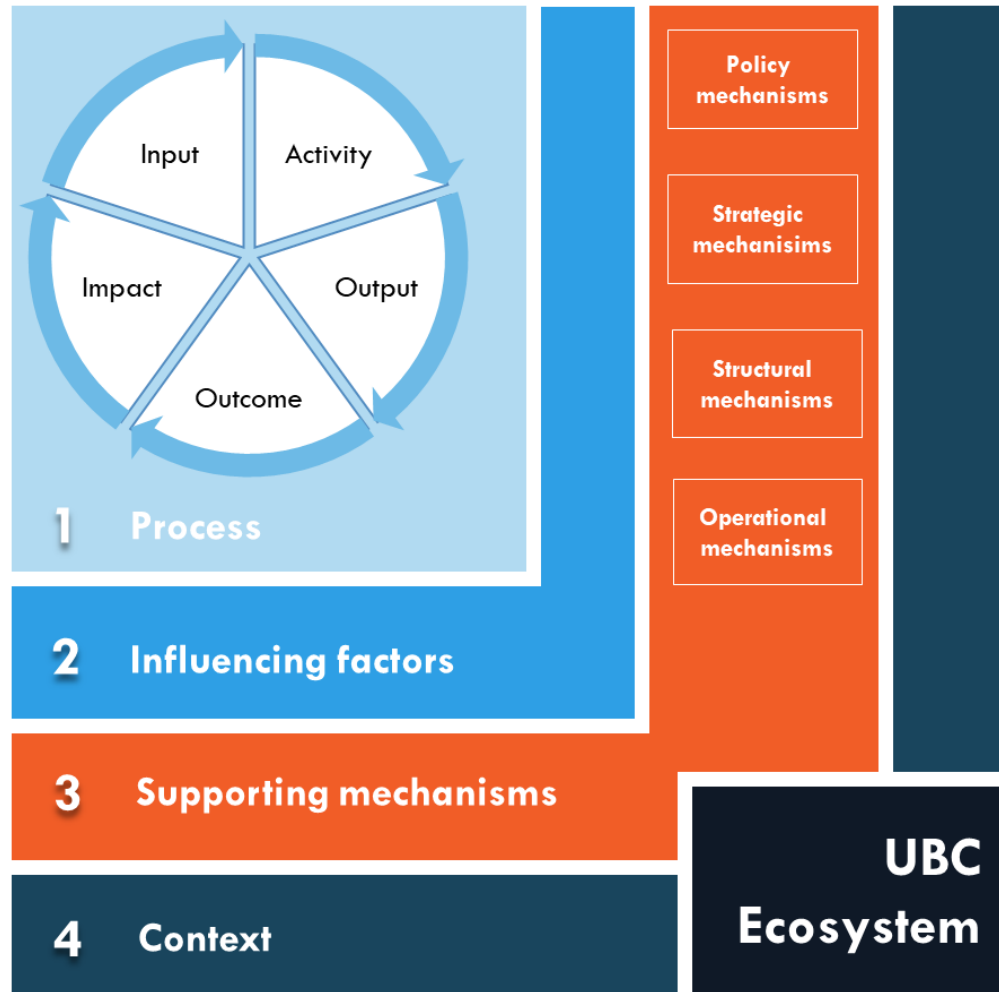
Academics cooperating in education



■ Detractors ■ Passives ■ Promoters

European academics' NPS result: -13.8

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

Danish HEI representatives perceive policy mechanisms to be developed to a medium and low level. These perceptions are similar to those of their European counterparts.

Policies positively supporting research collaboration between university and business are perceived as the most developed mechanism by Danish HEI representatives (6.4).

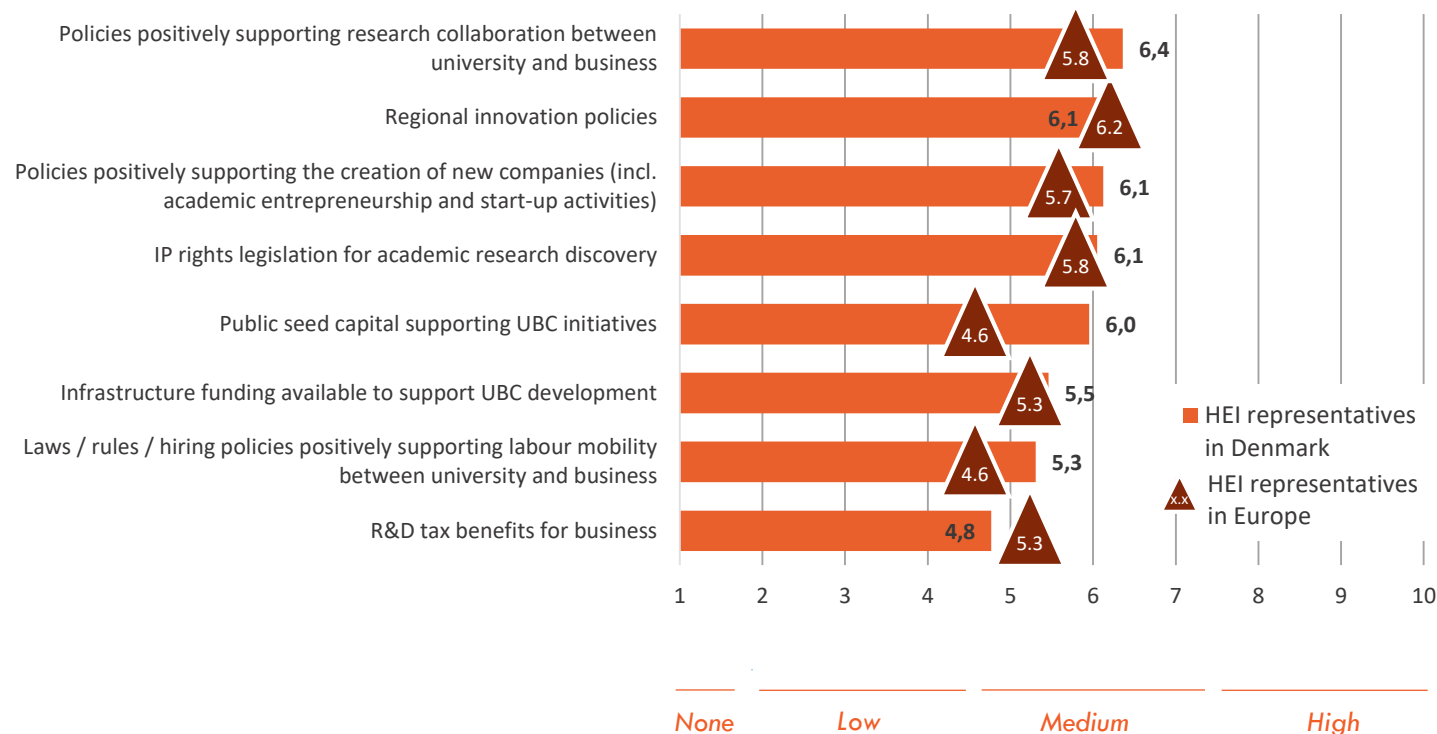
In the past few decades, there have been significant increases in public-private collaboration in Denmark. Alongside, there has been ample progress in the development of policies to promote public-private collaboration in terms of research and innovation.

Regional innovation policies and policies positively supporting the creation of new companies are also seen to be well developed in both Danish as well as European HEIs.

R&D tax benefits for businesses is perceived as the least developed mechanism by Danish HEI representatives.

Policy mechanisms

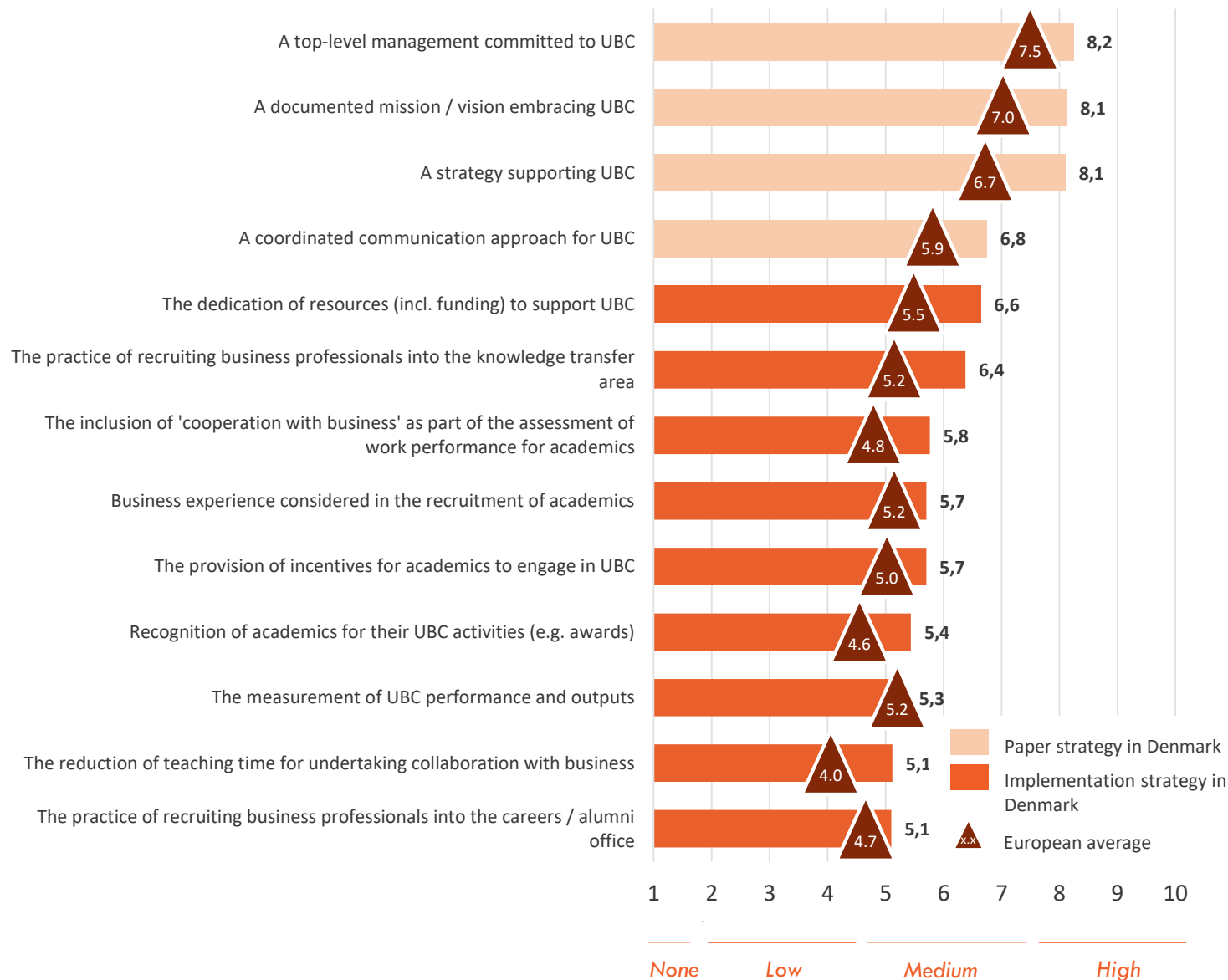
'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Supporting mechanisms for UBC

Strategic mechanisms

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



Overall, the development of the strategic mechanisms is relatively higher in Danish HEIs compared to the European average.

Notably, the paper strategies are substantially more developed than implementation strategies, showing the official commitment of Danish HEIs to UBC above the actual dedication of resources.

The least developed mechanisms relate to the reduction of teaching time (5.1) and the practice of recruiting business professionals into the careers/alumni office (5.1).

Supporting mechanisms for UBC

The development of structural mechanisms is slightly lower in Danish HEIs than in European HEIs.

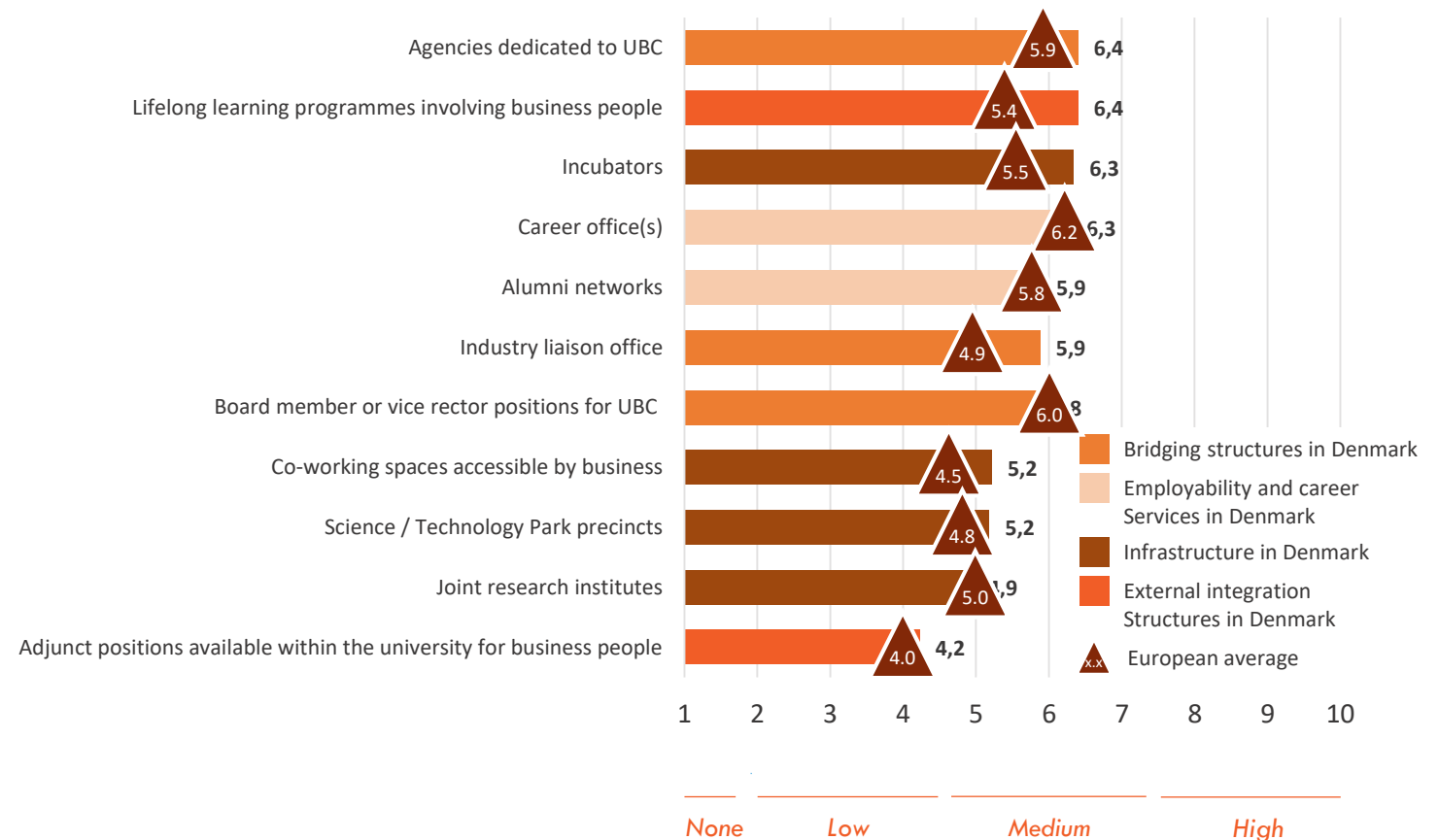
The most developed structural mechanisms in Danish HEIs include agencies dedicated to UBC and lifelong learning programmes (6.4 each).

Driven by the regional development, Danish HEIs have managed to develop and maintain UBC promotion offices and various entrepreneurship programmes. Together with a longstanding government focus on creating opportunities for graduates, this has led to the development of also incubators and career offices.

In both European and Danish HEI representatives adjunct positions within the HEI for business people (4.2) are present to a limited extent.

Structural mechanisms

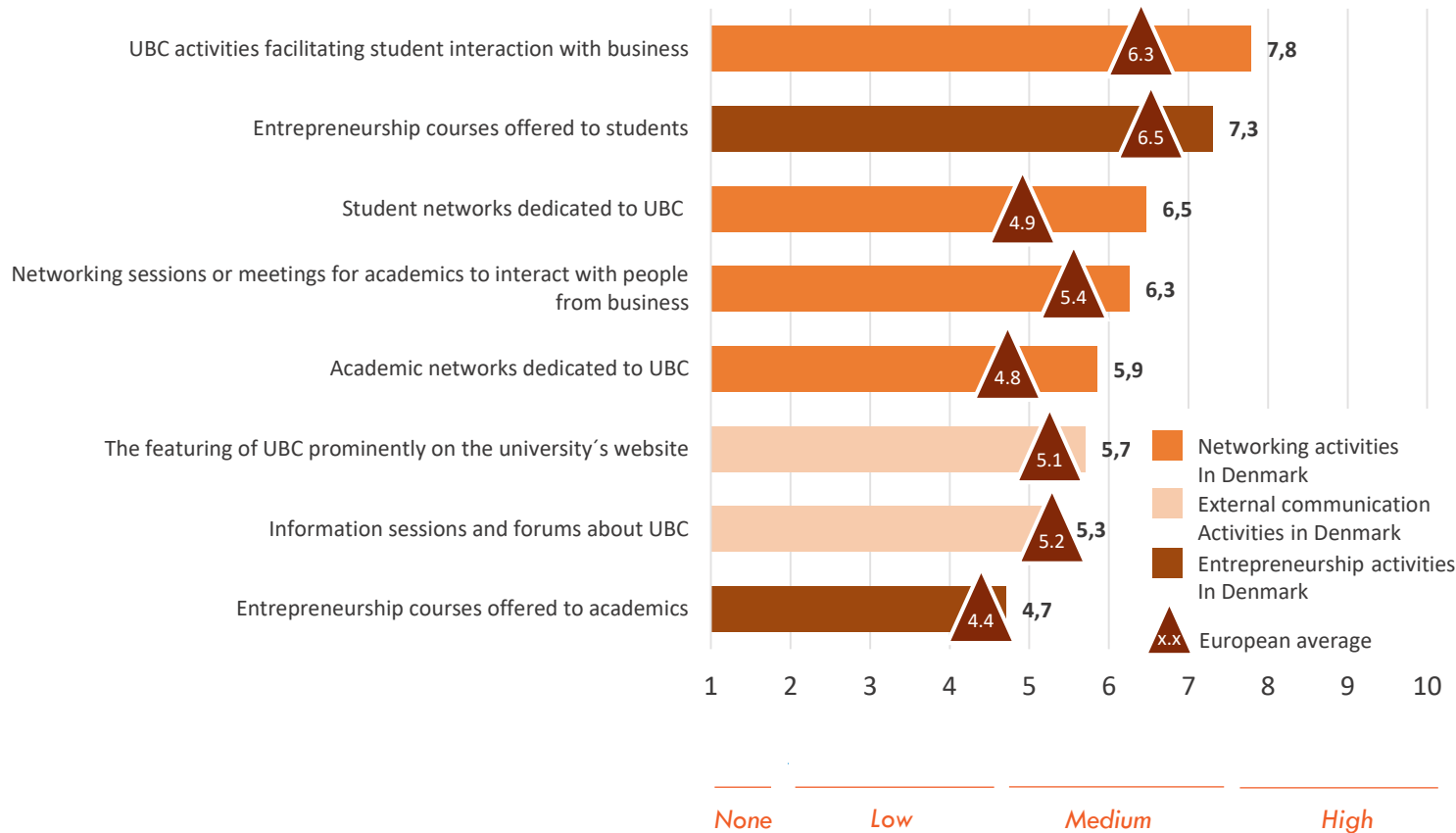
'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Supporting mechanisms for UBC

Operational mechanisms

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



The perspectives of Danish and European HEI representatives differ with respect to the development of operational mechanisms. Compared to the European average, they are better developed in Danish HEIs.

Student-centred activities are the most developed operational mechanisms, with UBC activities facilitating student interaction with businesses (7.8), entrepreneurship courses offered to students (7.3) and student networks dedicated to UBC ranked the highest.

Different reports (e.g. Danish DEA) have pointed to students being the strongest channel for transferring knowledge and starting-up UBC. This has led to an increasing focus on building capabilities within the universities for promoting student interaction with business as well as student entrepreneurship.

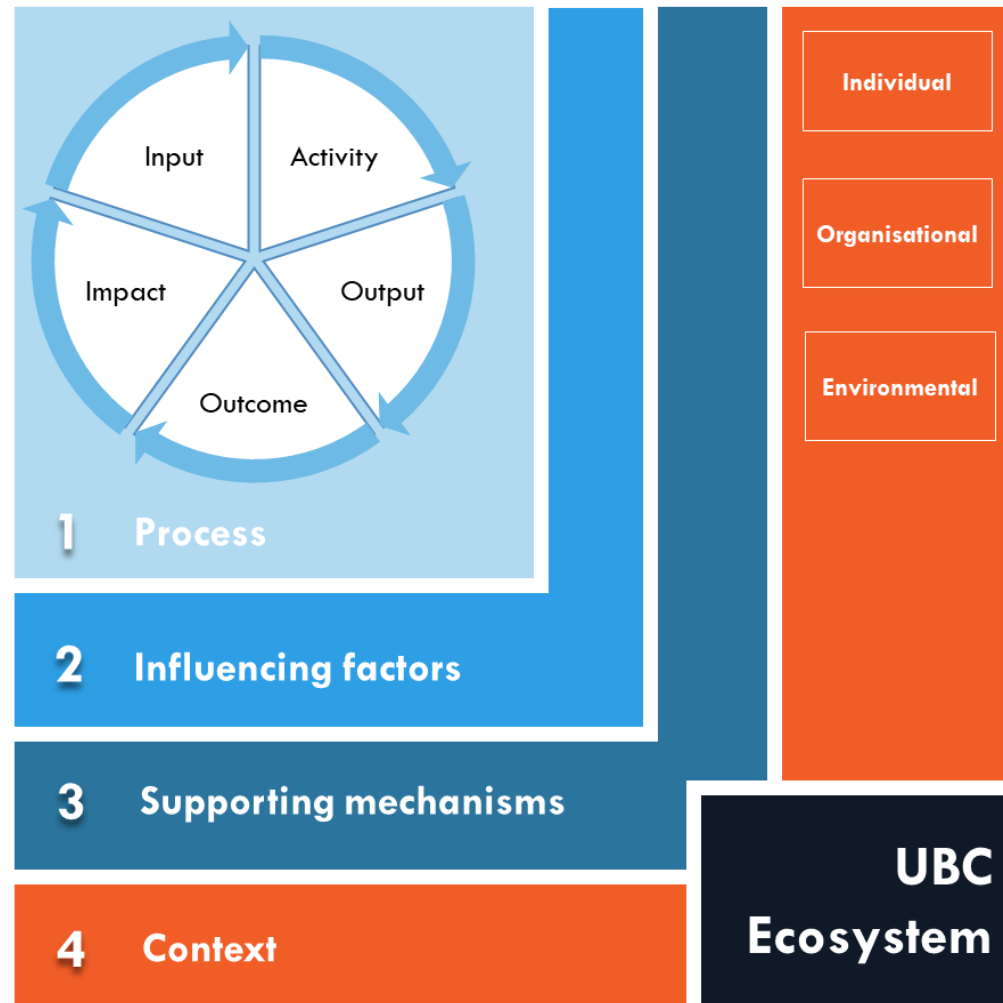
Among the activities focused on academics, networking sessions for academics to interact with business people (6.3) and academic networks dedicated to UBC are also well developed (5.9).

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.).

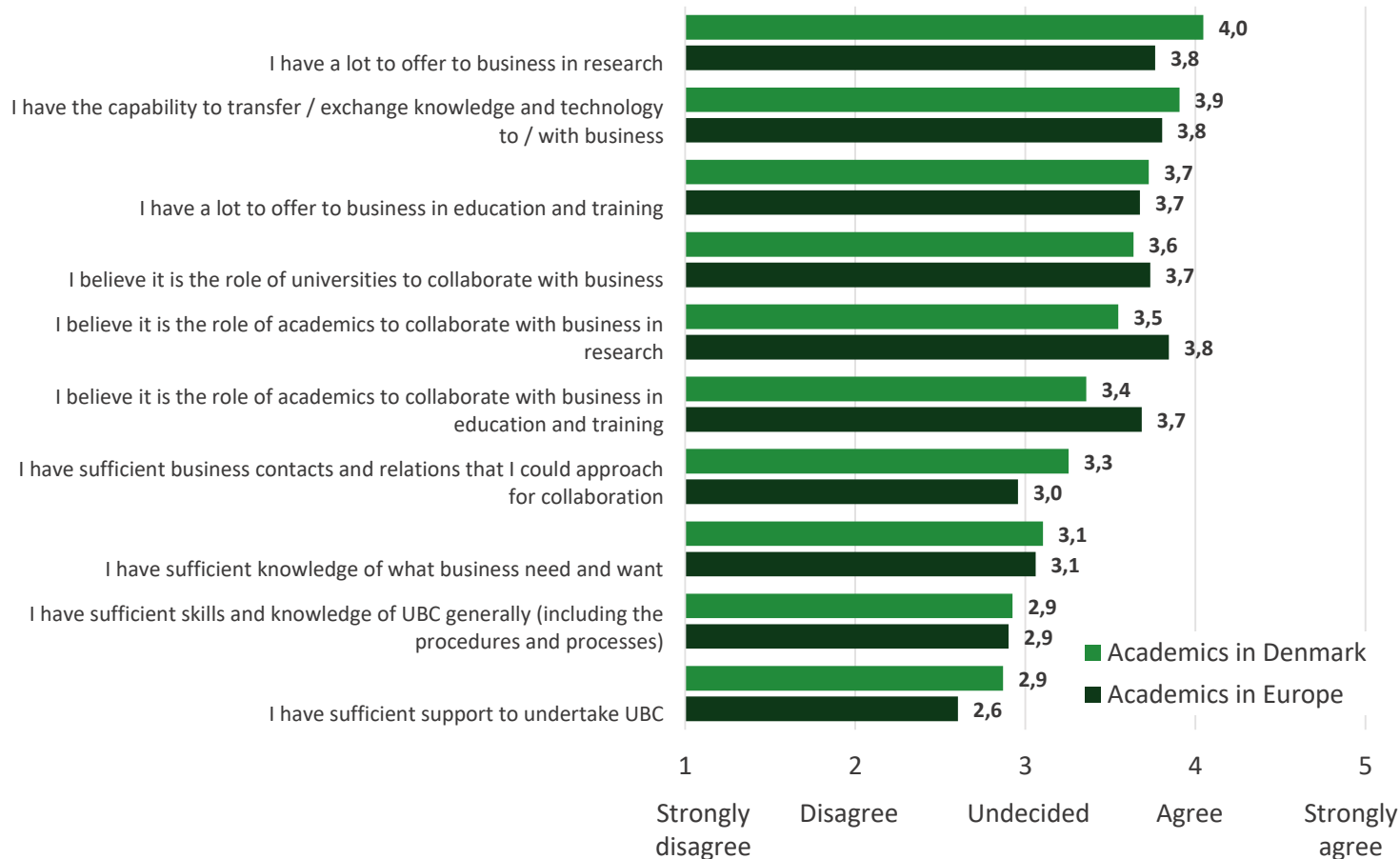
This section outlines how some contextual factors influence UBC in the country.



UBC capabilities

Capabilities for UBC

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



Danish academics identified moderate capabilities for UBC and beliefs about the role of UBC. Their perception is similar to the one of their European counterparts.

Danish academics identified their strengths in the ability to do research with/for business (4.0) and to exchange knowledge (3.9).

Yet, they perceive they lack knowledge about business needs and UBC in general, and overall have insufficient support (2.9) to undertake UBC.

Context

European and Danish academics have similar perception of contextual factor affecting UBC.

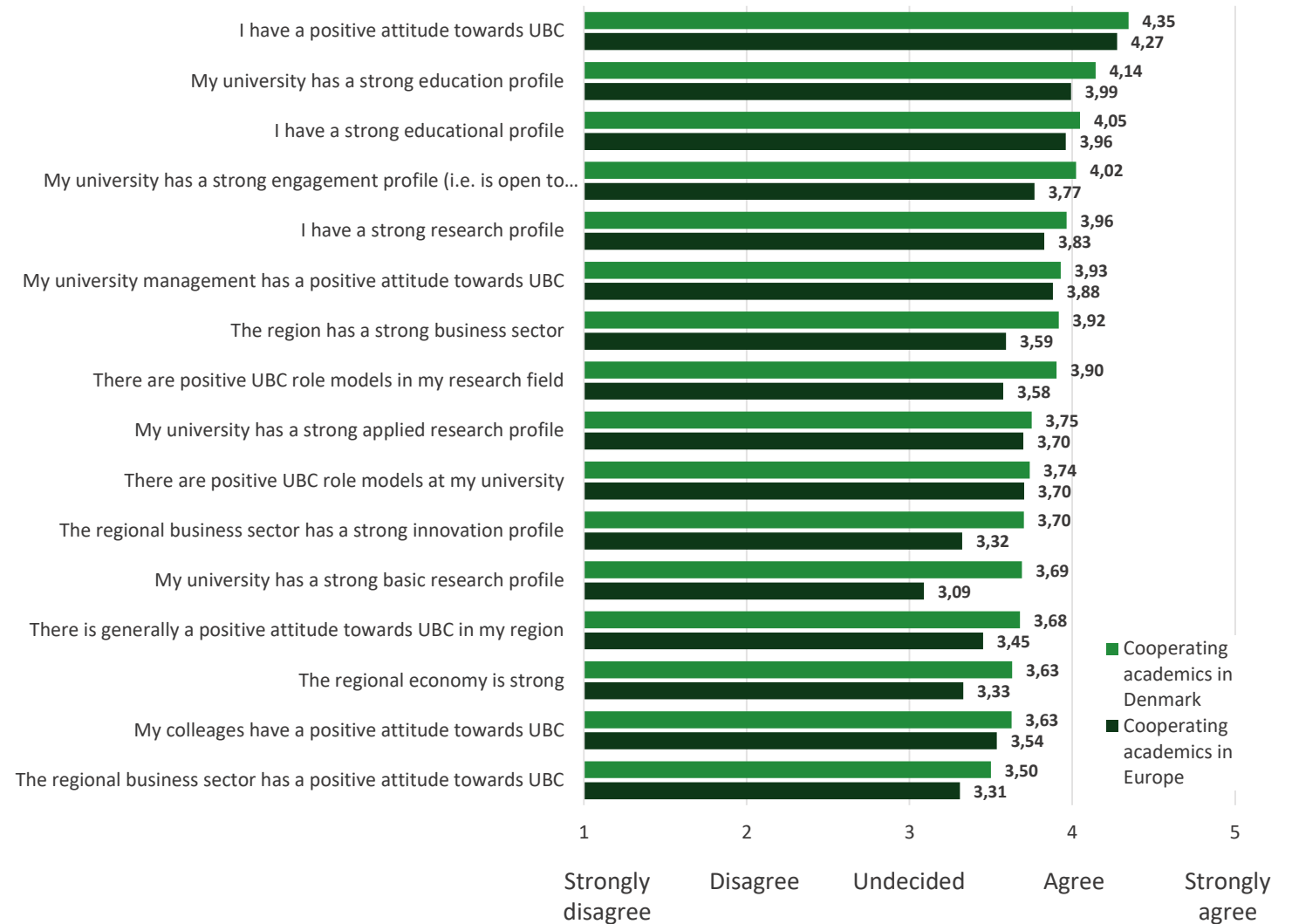
Both Danish and European academics consider they have a positive attitude towards UBC (4.3) and their universities have a strong educational profile. Hence, Danish academics have more positive perception of the attitudes among their colleagues, within HEIs and region towards UBC.

Danish academics also report that they have more positive UBC role models in their research fields and universities, compared to the European average.

The strength of the economy, business sector's innovation profile and university's basic research profile is perceived higher by Danish academics as well.

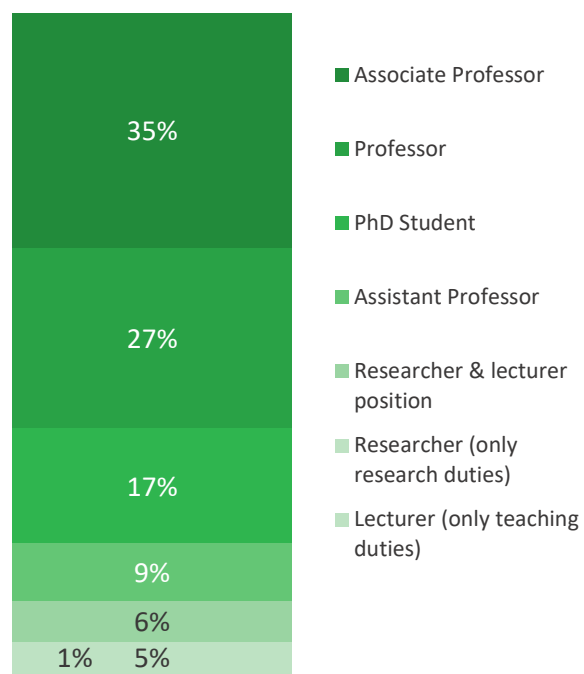
Contextual factors affecting UBC

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



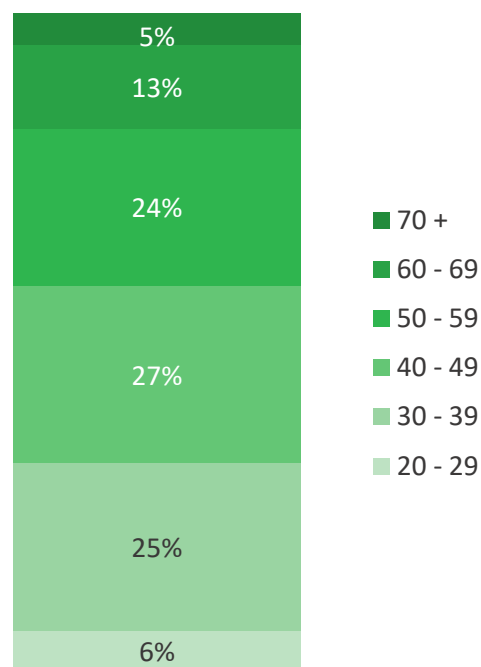
Respondent profile – academics

Position of respondent



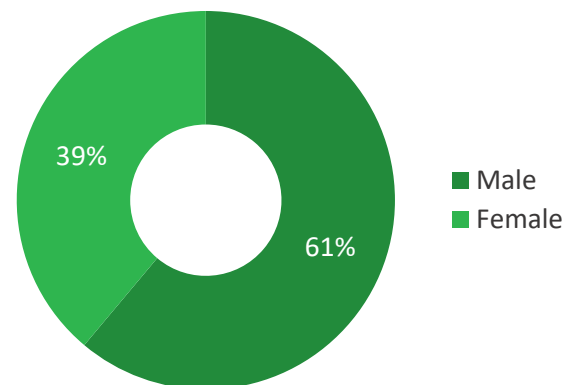
'Associate professors' comprise the largest group (35%), followed by 'professors' (27%). The remaining academics identified themselves as 'PhD students' (17%), 'assistant professors' (9%), 'researchers and lecturers' (6%) and 'researchers' (6%).

Age of respondents



Most Danish academics in the sample are in the middle of their working life. 27% of academics in the sample are between 40 and 49. Other significant groups are those aged 30-39 (25%) and 50-59 (24%), followed by those aged 60-69 (13%). Academics older than 70 are 5%.

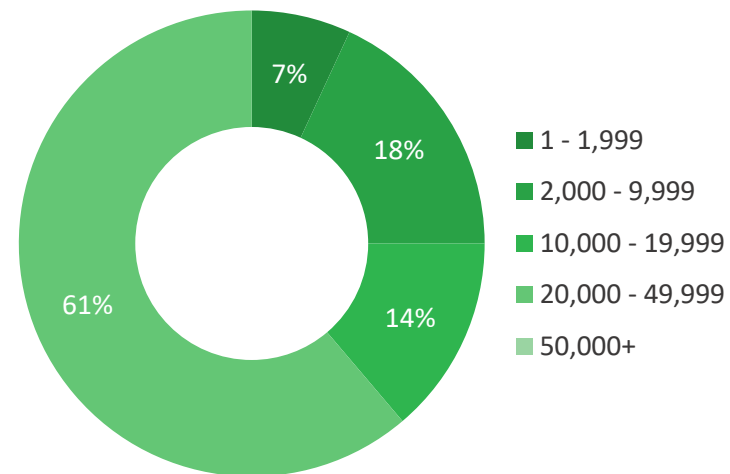
Gender of respondents



The emerged gender distribution is skewed towards male respondents, with 61% male and 39% female academics.

Respondent profile – academics

Number of students of the HEI

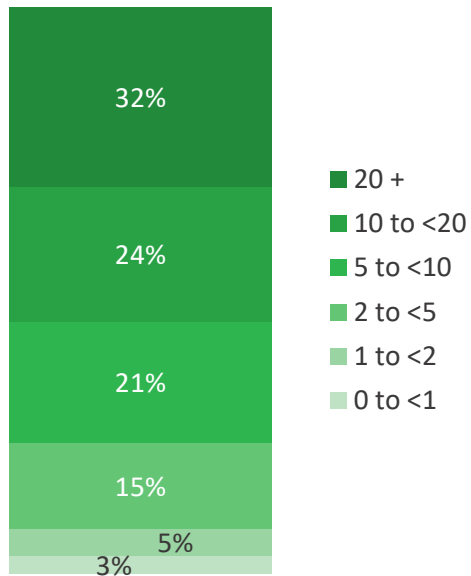


More than half of Danish academics (61%) work for medium-large HEIs (20,000 - 49,999 students). 18% are based in small HEIs (2,000 - 9,999 students) and 14% of them work for medium-sized HEIs (10,000 - 19,999 students). Only 7% of the academics work at micro-sized HEIs.

Sample Size	
Danish Academics	n=178
European Academics	n=10.836
Danish HEI representatives	n=97
European HEI representatives	n=3.482

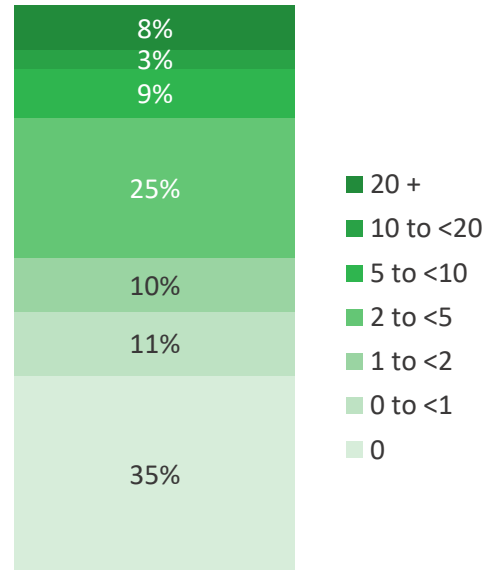
Respondent profile – academics

Years working in university



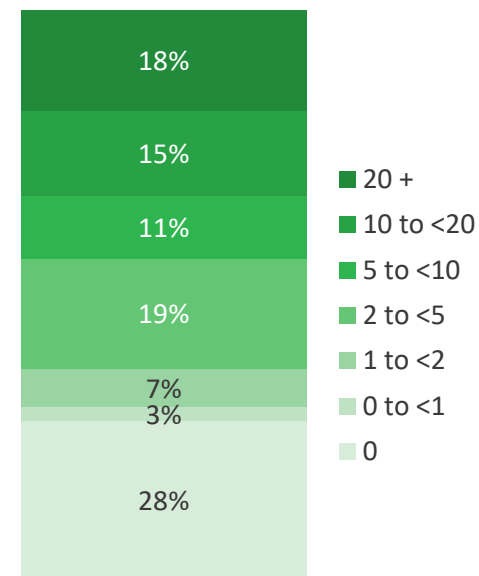
Most academic respondents have worked in academia for several years. More than half of them (56%) have worked in academia for over 10 years. 21% have 5-10 years of experience and 15% have worked in academia for 2-5 years.

Years working in business



Academic respondents are experienced in businesses. Two thirds (65%) of the Danish academic respondents have worked in industry before. 25% of them have done so for 2 to 5 years. 9% worked for 5 to 10 years and 11% have more than 10 years industry experience. 21% worked for less than 2 years in business.

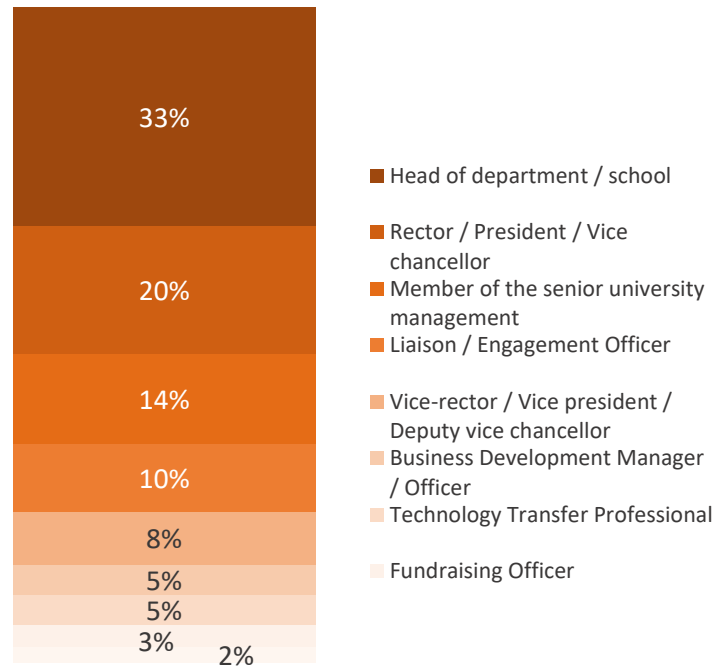
Years involved in UBC whilst working at a university or business



Most academic respondents in Denmark have some UBC experience. 18% have been involved in UBC for over 20 years, 26% have between 5 and 20 years of experience and other 26% between 1 and 5 years of experience. 28% of academics in the sample have never engaged in UBC.

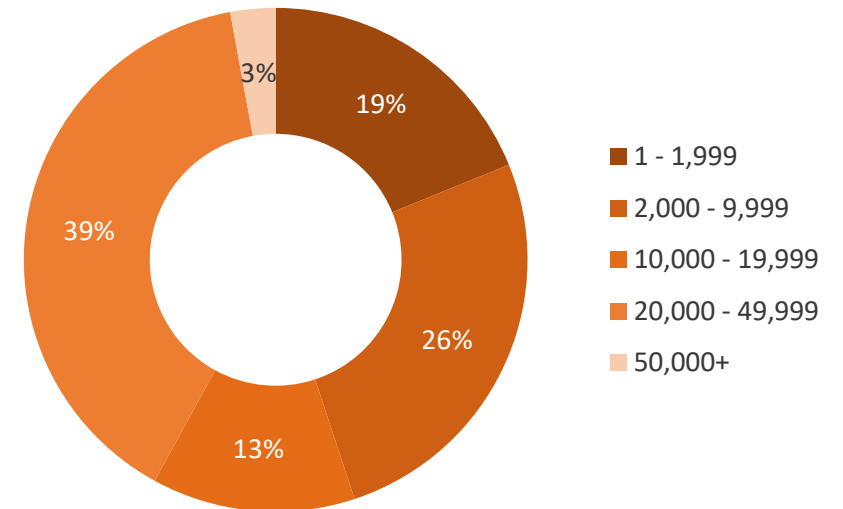
Respondent profile – HEI representatives

Position of respondent



Danish HEI representatives hold a variety of roles. One third of them (33%) are heads of departments. Rectors, presidents or vice chancellors are the second largest group (20%), along with members of the senior university management (14%). The smallest groups are liaison or engagement officers (10%), vice-rectors or vice-presidents (8%), business development managers (5%) and technology transfer officers (5%).

Number of students of the HEI



More than a third of HEI representatives work for medium large universities (20,000 – 49,999 students), followed by 26% based in small HEIs (under 9,999 students). 19% of HEI representatives work for very small HEIs (under 1,999 students). 13% work in medium-sized HEIs (10,000 – 19,999 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