GLOBAL UNIVERSITY ENGAGEMENT MONITOR

State of University Business Cooperation

Australia

University Perspective

Study on the cooperation between Higher Education Institutions and Public and Private Organisations

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The State of Australian University-Business Cooperation (HEI perspective)

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Executive summary

Summary

This report seeks to contribute to our understanding of the higher education institution's (HEI) perspective of university-business cooperation (UBC). Examining the perceptions of academics, HEI managers and knowledge transfer professionals (KTP) provides positive signs for the future, with all respondents currently cooperating with businesses planning to maintain or increase their cooperation in the future. Yet, more can be done, for example, in supporting academics in their cooperation efforts, including the development of dedicated academic UBC networks, as well as the development of incentive systems for academics engaging in UBC.

About the study

The results presented in this report reflect the perceptions of academics, HEI managers and KTP in Australia with respect to cooperation between HEIs and business. Data was collected by means of an online survey distributed via email to a business database that was developed based on publicly available information, leading to a total of 267 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 cooperation types, with joint R&D and business consulting emerging as the most prevalent ones; 86% and 84% of respondents respectively cooperate in this manner.

On the other hand, only 38% of academics report cooperation in the form of professional mobility, and just over half of the academic respondents are involved in academic and student entrepreneurship (54% and 55% respectively).

Respondents see themselves as proactive initiators of UBC, with 77% of respondents stating that they usually or always initiate such cooperation. In comparison, only 20% of respondents perceive internal intermediaries such as technology transfer officers as usually or always initiating cooperation.

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 the primary barrier to UBC. In addition to time, academics also perceive limited funding (business and government) as barriers. While cooperating academics identify university bureaucracy and differing motivations between universities and business as potential barriers, non-cooperating academics are concerned with a perceived limitation of the university in relation to opportunity awareness as well as difficulty in finding an appropriate partner.

Barriers most strongly perceived by HEI management relate primarily to monetary resources, such as limited resources of SMEs as well as lack of business and government funding. KTPs rate insufficient work time for academics as the primary barrier, aligned with the academic perception, followed by limited resources of SMEs.

Executive summary

They also highlight business lack of awareness of university research.

Relationships matter

While funding to undertake cooperation emerges as one of the top five facilitators, including the highest ranked for HEI managers and KTP, relational factors emerge as the most prominent facilitators. It is the existence of a shared goal, the mutual commitment and the mutual trust alongside prior relations with a partner that facilitate and thus drive cooperation, from the perspectives of all HEI respondents. These results confirm that any effort dedicated to enable and increase cooperation between businesses and universities should focus on relationship development as a central ingredient.

Society matters

What motivates HEI respondents to engage in university-business cooperation? HEI Managers/KTP rank the motivator of positively impacting society highest, with motivators related to addressing social challenges and issues also ranking in the top 3. Obtaining funding and improving the university's reputation and graduate employability feature as other important motivators for this group.

While non-cooperating academics also view addressing societal challenges and improving graduate employability as central motivators for UBC, cooperating academics focus on their research, including its use in practice and the ability to gain new insights for research from UBC, while also recognising the benefits emphasised by others.

Strategy first

Universities in Australia are seen to place a strong emphasis on developing support mechanisms for UBC. As evident in the data, high-level strategic developments such as top-level management commitment for UBC and a documented mission/vision embracing UBC are perceived as well developed. Yet, specific incentive systems, the integration of UBC in academic performance assessment and the reduction in teaching time in exchange for extended cooperation emerge as less developed.

Most highly developed structural mechanisms in the given sample include agencies related to UBC as well as board member or vice-rector positions in this context. When examining the development of specific activities, a strong focus on students emerges, with the highest development reported in relation to student entrepreneurship courses, and UBC activities facilitating student interaction with business and student networks dedicated to UBC (e.g. entrepreneurship networks). Academic entrepreneurship courses and networks, on the other hand, are perceived as least developed.

Cooperating with conviction

Academic respondents already cooperating with business have a very positive view of their abilities and roles in undertaking UBC. Indeed, over 93% of respondents believe in their ability to exchange knowledge and technology with business with over 88% believing that they have a lot to offer business in regards to research. Yet, less than 59% agree that they know enough about what business need and want, and just under 44% of respondents believe that they have sufficient support to undertake UBC.

Introduction

Background

The importance of UBC for innovation and education is widely recognised, with Australia embracing cooperation as critical to economic and social development. Australia's National Innovation and Science Agenda (NISA) places HEIs at a central position in the economy. The nation is embracing the need to create a more connected and functioning relationship between government, business and HEIs to increase employment, productivity and social cohesion.

While Australia retains its poor rating in relation to UBC to date (OECD 2015 Science, Technology and Industry Scoreboard Volume 2015.12), the positive direction of current changes both in relation to policy and institutional advances have been noted (OECD Economic Survey Australia March 2017). Drawing on the clear movement towards advanced university-business relations and improved commercial impact from research in Australia, the timing is right for developing a thorough understanding of the perspectives of various stakeholders in the UBC ecosystem.

When significant change and development is sought, as is evident in Australia, it is vital to assess the state of play of UBC, its development, barriers and drivers, self-efficacy, institutional culture for UBC and mechanisms supporting UBC. To develop UBC most effectively, an in-depth understanding of the UBC ecosystem becomes crucial as it helps to avoid wastage of investment and resources, unrealistic expectations, disappointment and disillusionment.

The study was timed so that it happened concurrently with the *State of European UBC study,* a study undertaken for the European Commission (a €500,000 investment), led by the Science-to-Business Marketing Research Centre (S2BMRC) in Germany and backed by a European Consortium. The European study is a follow-up study to that executed by S2BMRC in 2010-11.

Please also refer to the recent Performance Review of the Australian Innovation, Science and Research System for an extensive analysis of the innovation ecosystem in Australia (https://industry.gov.au/Innovation-and-Science-Australia/Documents/ISA-system-review/index.html).

Method

Data was collected by means of an online survey instrument, originally developed as a central component of the State of the European UBC study (https://www.ub-cooperation.eu/). The survey was distributed to a database of Australian university contacts, including academics, KTP and HEI management. This database was developed by drawing on publicly available information, such as information about ARC Linkage Grants and CRCs, as well as networks developed through UBC activities and project partners' networks.

Project partners

- The University of Adelaide (Australia)
- Science-to-Business Marketing Research Centre (Germany)
- Munich Business School (Germany)
- University Industry Innovation Network (Netherlands)

Study Objectives

This report details insight gained from the higher education (HEI) perspective during a 10-month study conducted between October 2016 and July 2017. Business-related insights are reported elsewhere.

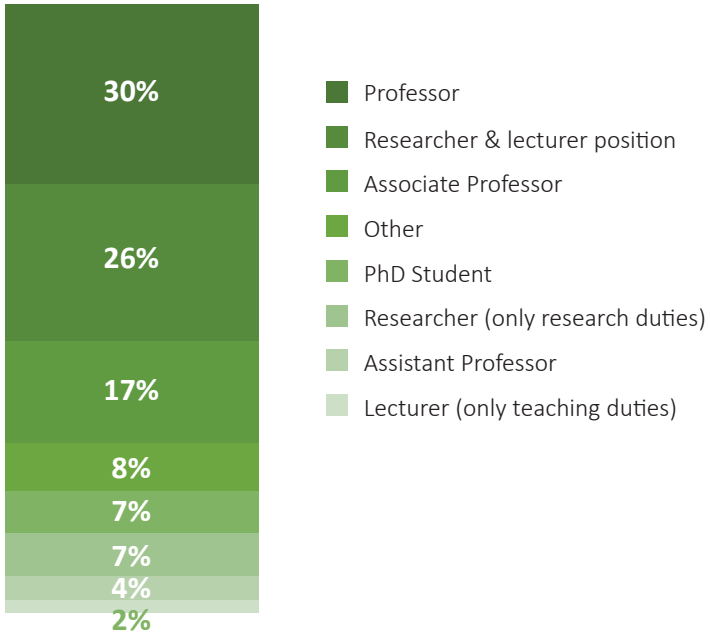
The objectives are to:

- determine the status quo regarding UBC in Australia, including the extent of collaboration across a broad section of engagement factors as perceived by business,
- describe the factors that facilitate or inhibit UBC in Australia from the business perspective,
- describe the development of business mechanisms supporting UBC in Australia,
- provide information for stakeholders seeking to increase UBC,
- establish a deep understanding of the ecosystem in place for UBC in Australia,
- provide learning opportunities through linkages with the European UBC landscape.

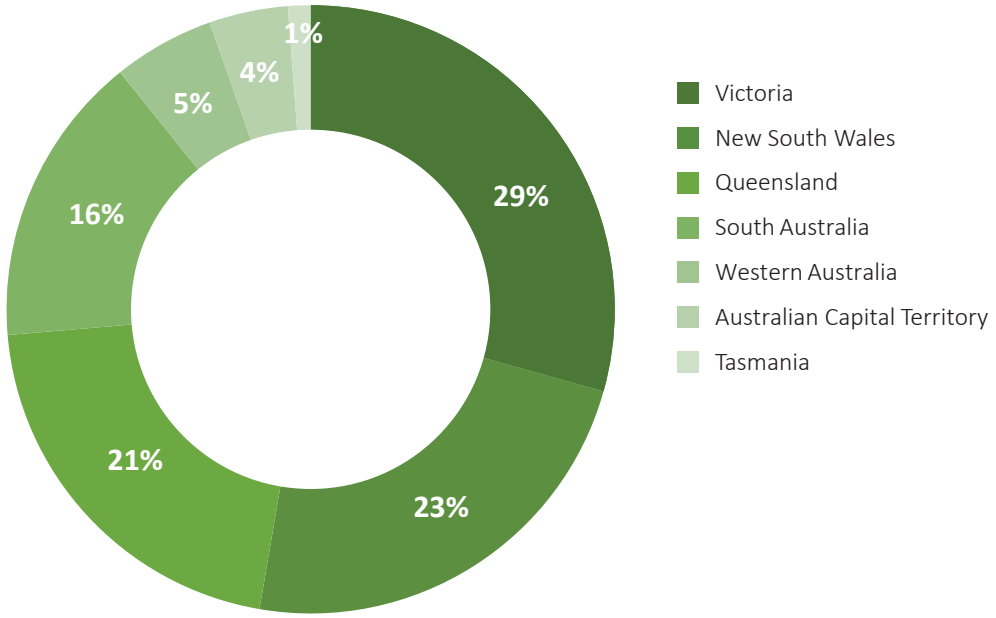
Overall, 289 usable responses from the higher education sector were received, namely from 167 academics, 61 higher education institution (HEI) Managers and 61 knowledge transfer professionals.

Respondent profile - academics

Position of respondent



HEI location

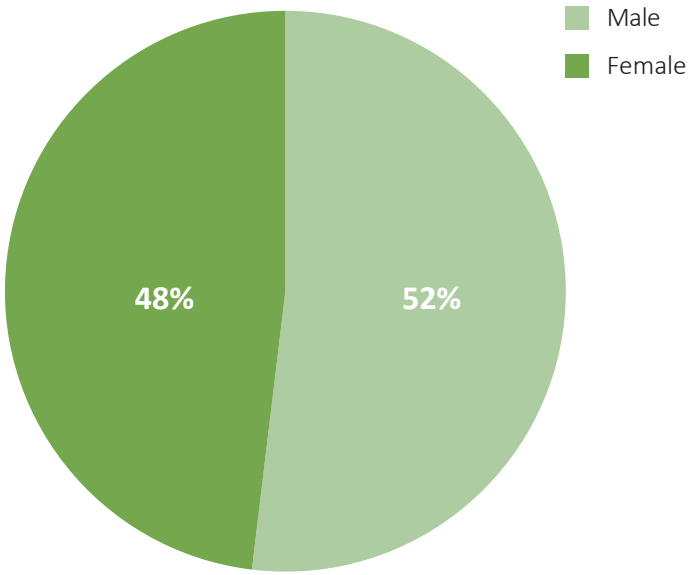


Examining the position of academic respondents, 'Professors' comprised the largest group (30%), followed by 'Researcher and lecturer' (in teaching and research duties) (26%). The remaining respondents identified themselves as 'Associate Professor' (17%), 'PhD student' (7%), 'Researcher' (7%), 'Assistant Professor' (4%) and 'Lecturer' (only teaching duties) (2%).

The survey captured responses from a variety of States and Territories. Victoria has the highest representation (29%), closely followed by New South Wales (23%) and Queensland (21%). Regions with smaller representation are South Australia (16%), Western Australia (5%), Australian Capital Territory (4%) and Tasmania (1%).

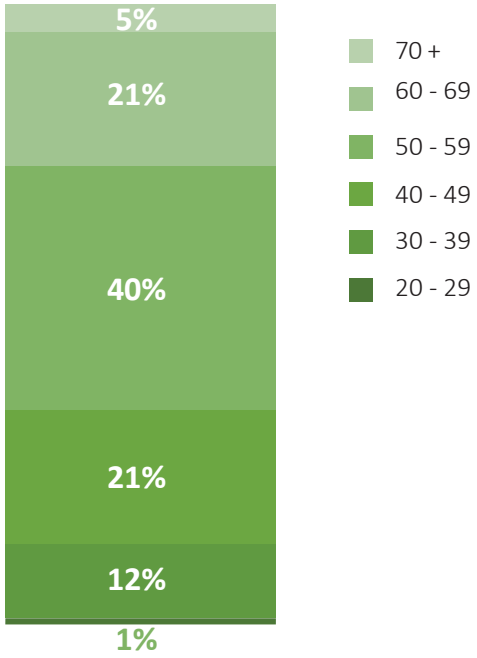
Respondent profile - academics

Gender of respondents



An even distribution emerged with respect to gender, with 48% of respondents female and 52% male.

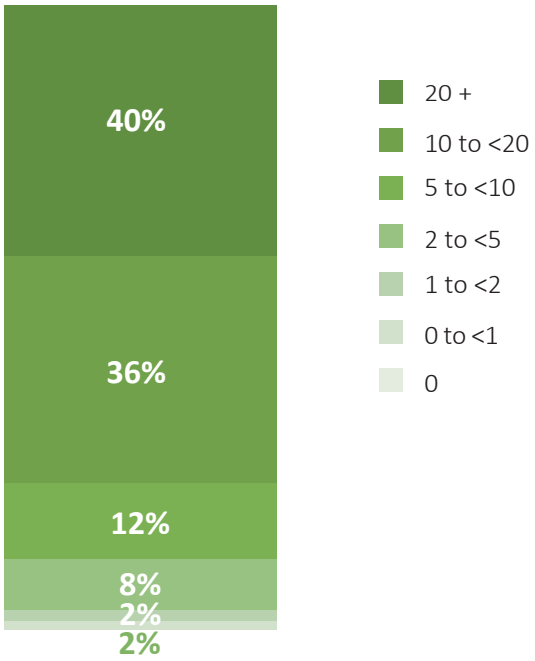
Age of respondents



A variety of age groups is represented in the sample, with respondents aged between 50 and 59 most strongly represented (40%). Other significant groups are those aged 60-69 and 40-49 (21% each), followed by those aged 30-39 (12%). Participants above the age of 70 accounted for 5%, and only 1% of respondents are aged between 20 and 29.

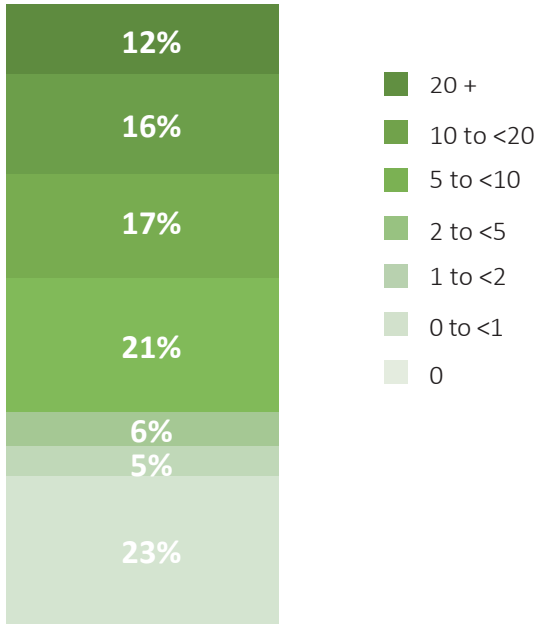
Respondent profile - academics

Years working in university



A high percentage of respondents captured in the sample has worked in academia for a large number of years. Indeed, 40% of respondents indicate that they have worked in a university for over 20 years, whilst 36% of the academic respondents have worked in HEIs for between 10 and 20 years. A lower percentage of respondents emerged in the 5-10 year (12%), 2-5 year (8%) and less than 1 year (2%) brackets.

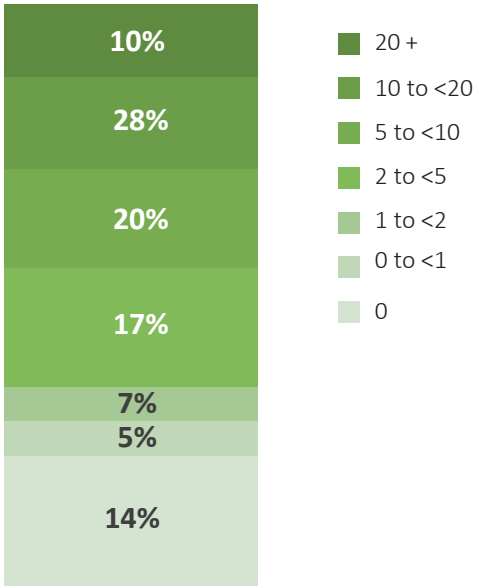
Years working in business



A high percentage of respondents also indicated that they have experience working in business. A high percentage (77%) of academic respondents have worked in industry before, with 21% of them having done so for between 2 and 5 years. 17% specify 5 to 10 years industry experience, 16% have between 10 and 20 years of experience, and 12% have worked in business for over 20 years.

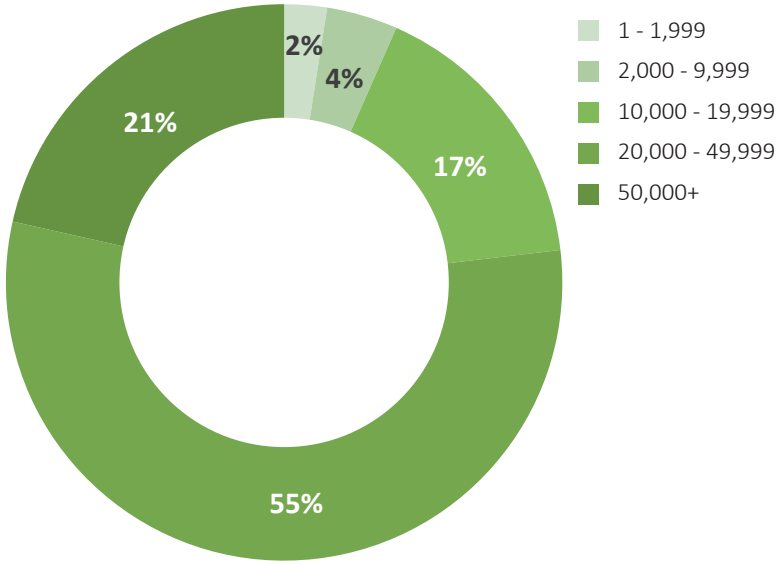
Respondent profile - academics

Years involved in UBC whilst working at a university or business



When asked about their engagement within the UBC environment, 28% of respondents stated that they have between 10 and 20 years of experience in UBC. With 20% of the respondents noting between 5 and 10 years, and 17% between 2 and 5 years of experience. A further 10% have been involved in UBC for over 20 years. A smaller percentage of academic respondents have been involved in UBC for 1 to 2 years (7%) or even less (less than 1year, 5%). In addition, 14% of respondents noted that they have never participated in UBC at all.

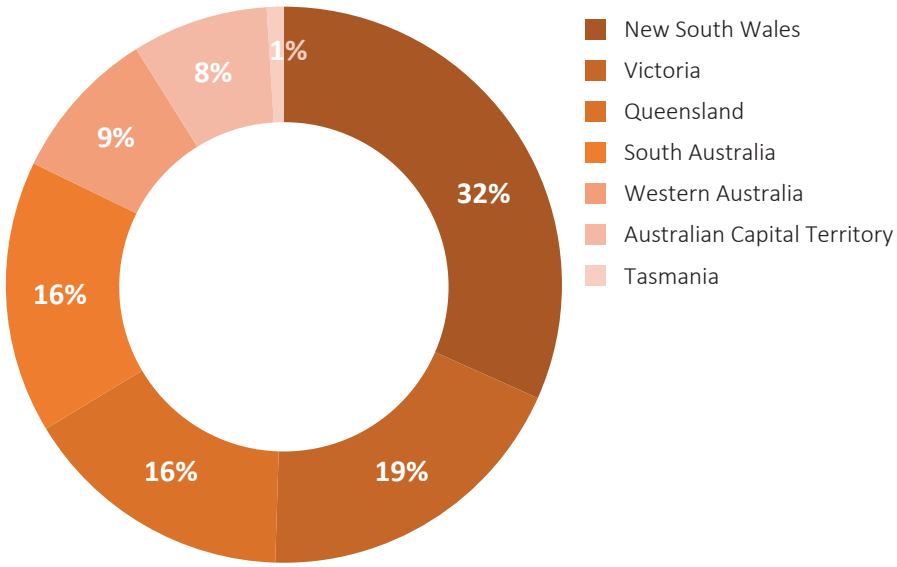
Number of students of the HEI



The responses show that respondents work in HEIs of very different sizes. The most common bracket is for large universities with between 20,000 and 49,999 students (55%), with very large universities of over 50,000 the second most represented in the sample (21%). Medium-sized HEIs between 10,000 and 19,999 students account for 17% of the respondents, with smaller institutions represented to a lesser extent: 4% of respondents work at small HEIs with between 2,000 and 9,999 students, and 2% at institutions below 2,000 students.

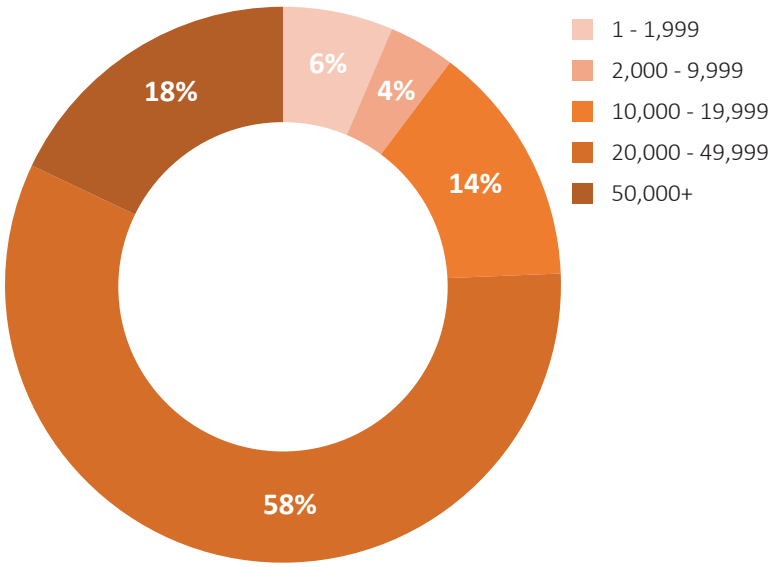
Respondent profile – HEI management and KTP

HEI location



The results show that 32% of respondents holding a HEI management or KTP position are based in New South Wales, followed by Victoria (19%). Queensland and South Australia represent 16% of the sample each, with a lower participation from Western Australia, Australian Capital Territory and Tasmania (9%, 8% and 1% respectively).

Number of students of the HEI

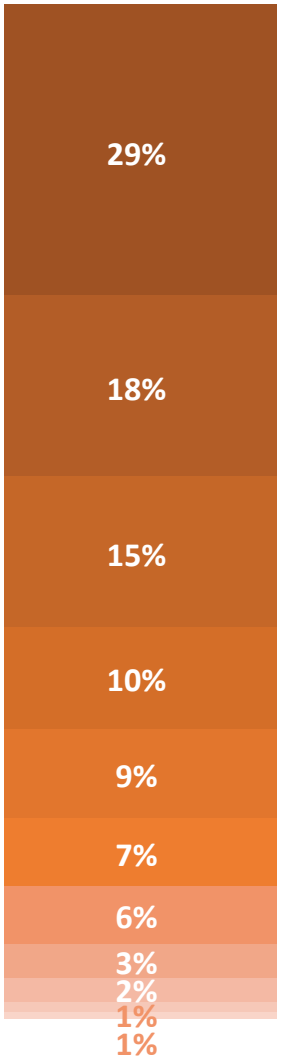


When compared to the responses by academics, HEI managers responding to the survey reflect a similar distribution when it comes to the size of the institutions they represent. Overall, 58% work for large HEIs (between 20,000 and 49,999 students) with a further 18% based in institutions with over 50,000 students.

Respondent profile – HEI management and KTP

Position of respondent

Within the management and KTP area, respondents hold a variety of roles. ‘Members of the senior university management’ was noted most frequently (29%). Other positions represented in the sample are ‘Business Development Manager/Officer’ (18%) and ‘Head of Department/School’ (10%). Some less common responses include ‘Vice-rector/Vice president’ (9%), ‘Liaison/Engagement Officer’ (7%) and ‘Rector/ President/Vice Chancellor’ (6%).



- Member of the senior university management
- Business Development Manager / Officer
- Other
- Head of department / school
- Vice-rector / Vice president / Deputy vice chancellor / Pro vice-chancellor
- Liaison / Engagement Officer
- Technology Transfer Professional
- Career Services Officer
- Rector / President / Vice Chancellor
- Entrepreneurship Professional
- Alumni Officer

Extent of UBC

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

Area	Type			
Education	Curriculum development & delivery	Student mobility	Lifelong learning	Dual education programmes
Research	Collaboration in R&D	Professional mobility	Contract research	
Valorisation	Commercialisation of R&D results	Academic Entrepreneurship	Student Entrepreneurship	
Management	Governance	Shared resources	Industry support	

Graphic: Forms of university – business cooperation

Extent of UBC

Area	Type of cooperation	
Cooperation in education	1.	curriculum co-design
	2.	curriculum co-delivery *(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 businesspeople *(e.g. executive education, industry training and professional courses)*
Research cooperation	*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	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	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)*

Table: Forms of university – business cooperation

Extent of UBC

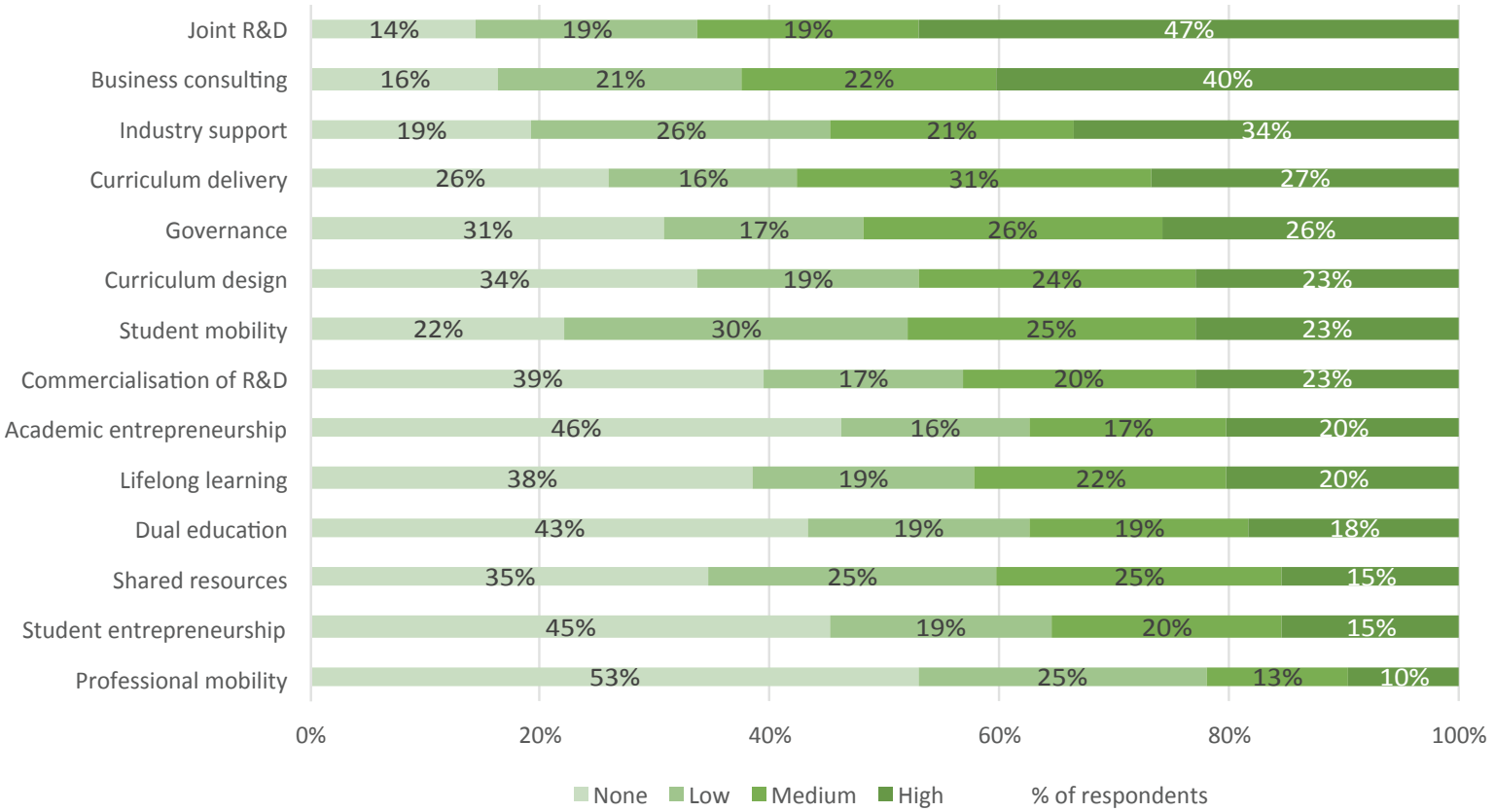
The extent of cooperation between businesses and universities is presented in a range of modalities, on four different levels of development: None, Low, Medium, and High.

Within the different types of cooperation, respondents have identified 'Joint R&D' and 'Business consulting' as the most developed modalities, with 47% and 40% academics respectively reporting it a high level of development and only 14% and 16% respectively reporting that they did not undertake the activity at all. At the other end of the scale, 53% and 46% of academics reported that they are not involved in 'Professional mobility' and 'Academic entrepreneurship' respectively.

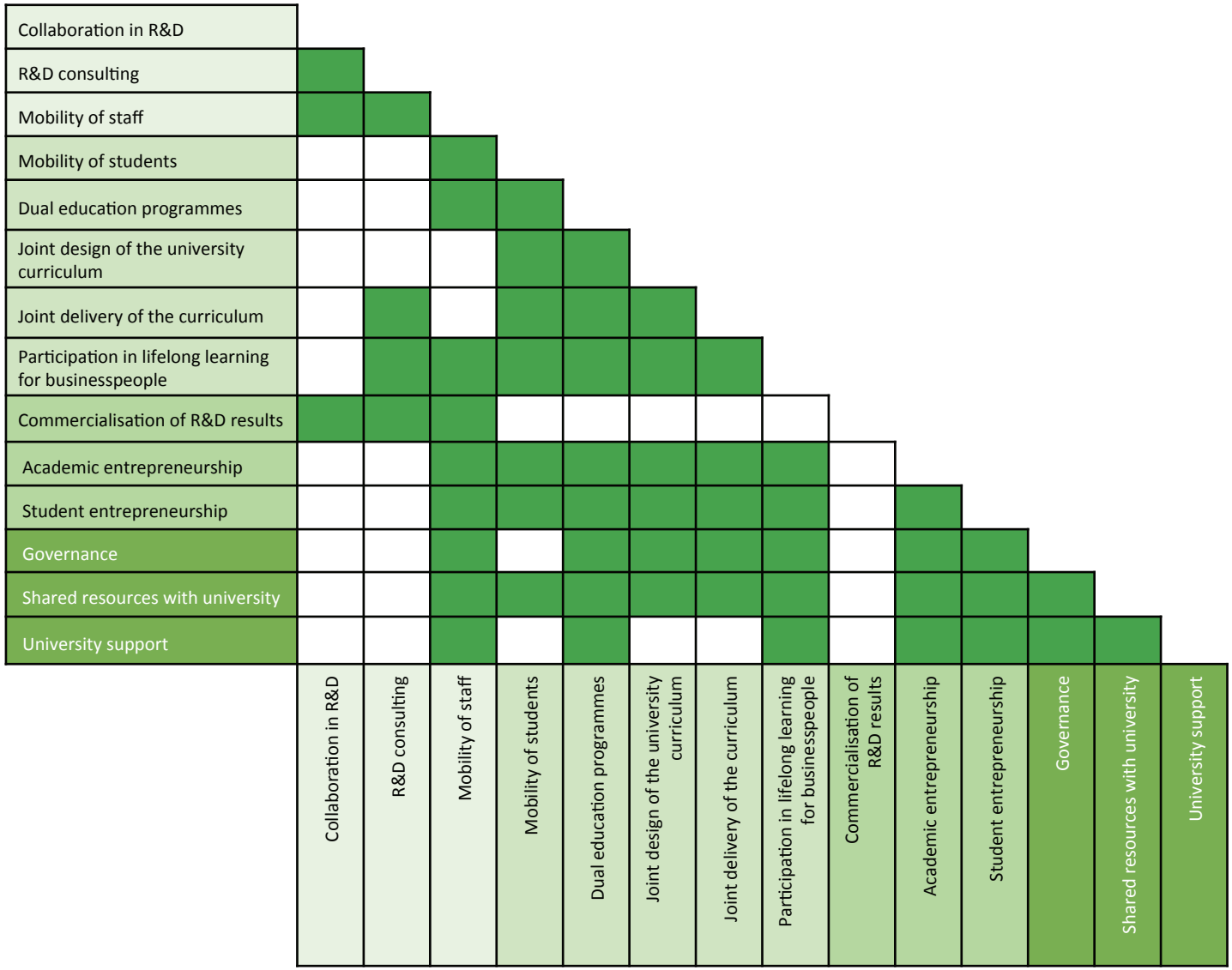
There is no obvious trend in the development of the different areas of cooperation (see previous page).

Extent of university-business cooperation

What types of cooperation do you have with businesses –
As answered by Australian academics



Relationship between types of cooperation



N.B. Correlations indicated in green

As depicted on the following page, the study identified a strong (positive) correlation between the development of various types of cooperation (correlations are indicated in green). This means that the development of one type of cooperation is related to the development of another type of cooperation without suggesting any causation or direct influence of one on the other. A practical interpretation of two positively correlated types would be that as one type of cooperation is highly (or lowly) developed, the other type of cooperation is also highly (or lowly) developed.

The figure thus indicates that the types of cooperation in each area (highlighted by different shades of green) are correlated with each other in most areas. This high degree of correlation indicates that when a business cooperates with HEIs in one form of education (or research, or commercialisation or management) for example, they are likely to cooperate in a number of forms of education (or research, commercialisation management).

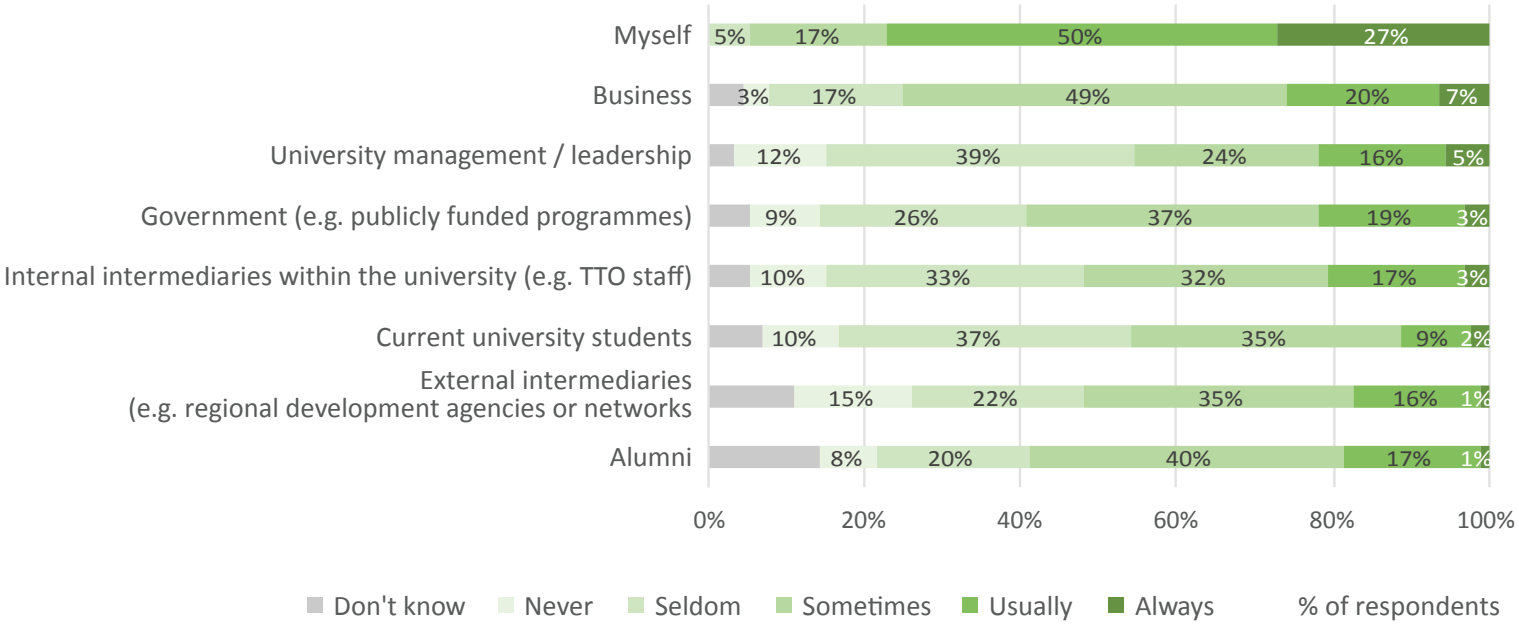
According to the correlation analysis 'Mobility of staff' and 'Participation in lifelong learning' are associated with a large number of other types of cooperation. 'Collaboration in R&D' and 'Commercialisation of R&D' on the other hand, have the least amount of significant correlations with other cooperation types, meaning that it is more likely done in isolation from other types of cooperation.

Initiating UBC

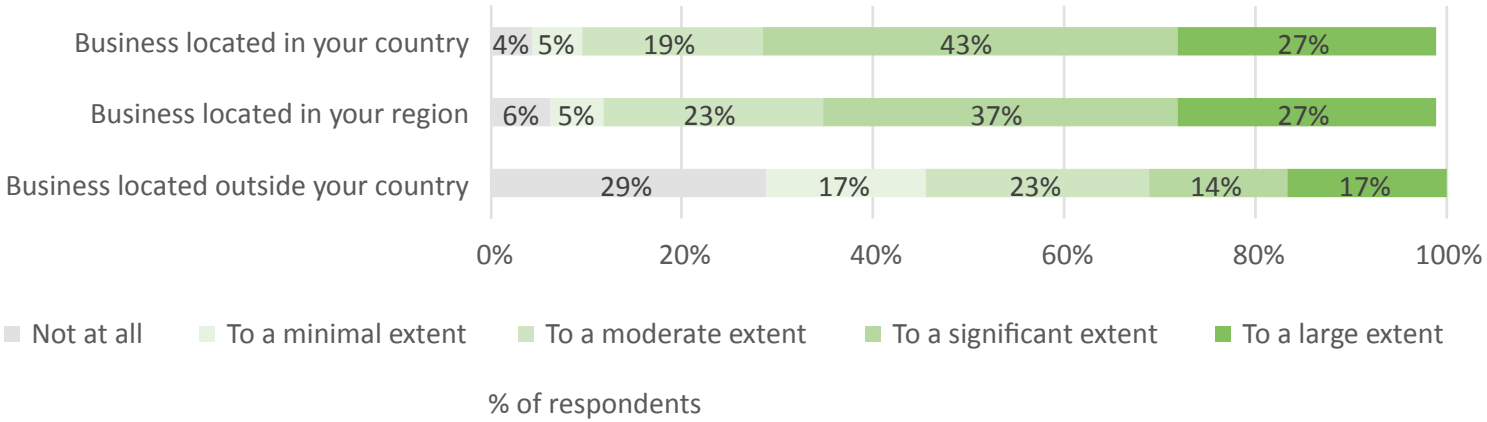
When asked who initiates UBC activities, the majority of respondents (77%) consider themselves (academics) as 'always' or 'usually' the initiators of this dialogue. Business (27%) and government (i.e. publicly funded programmes, 22%) are also considered initiators. On the other hand, 51% of academics indicate that HEI managers and leaders 'never' or 'seldom' take the first step in initiating UBC.

Initiation of university-business cooperation

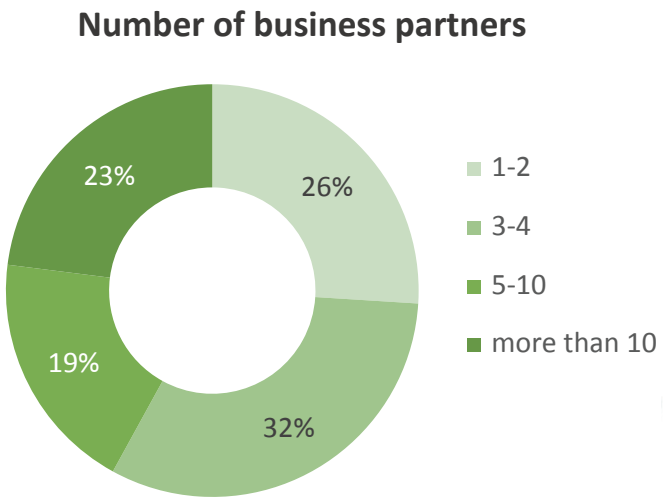
'Who initiates cooperation?' as answered by Australian academics



Location of cooperating partners



In terms of the **location of cooperating partners**, the information received from responders indicates a high level of cooperation with businesses at a regional and national level (92.6% and 94.7% respectively) with 71% of respondents indicating cooperation with international partners.



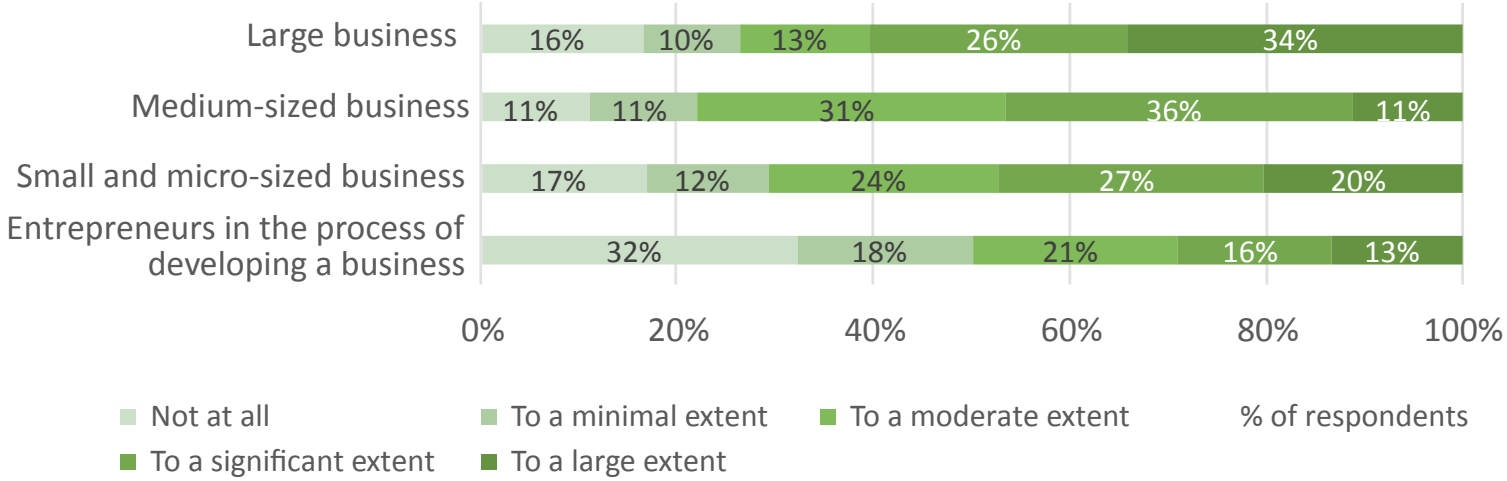
With respect to the number of businesses academics cooperate with, there is no clear trend, with 58% of academics cooperating with 1 to 4 partners and the remainder having established relations with 5 or more businesses (42%).

Size of cooperating partners

Results show that academic respondents of this study collaborate with businesses of varying size. Large corporations present the highest share, with 60% of academics in the given sample cooperating with them to a 'significant' or 'large' extent. Furthermore, 47% of academics cooperate with medium as well as small and micro-sized businesses to a significant or large extent. There is a small lag in the cooperation with entrepreneurs that are still developing their business – only 29% of academics in the sample have established links to a 'significant' or 'large' extent.

Size of cooperating partner

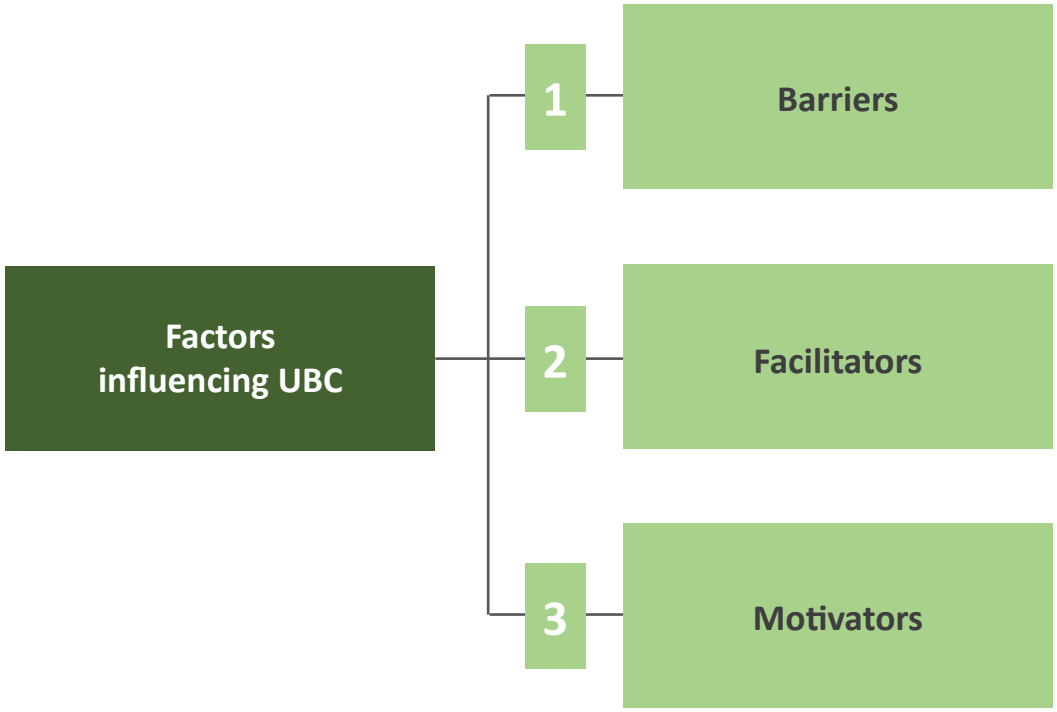
'With whom do you collaborate?' as answered by Australian academics



Factors influencing the extent of UBC

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

These factors have been found to significantly influence UBC in extant literature.



A *barrier* provides a hindrance or obstacle to do something. Drivers comprise facilitators, which provide the capability to do something, and the motivators or incentives to do that activity. More specifically, removing a *barrier* does not create UBC but rather it makes UBC possible. Instead, it is the *facilitators* and *motivators* (drivers) that accelerate 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 *facilitators* or perceived motivators are not sufficient.

Barriers hindering UBC

The top five barriers to UBC named by the Australian academic survey respondents are those categorised in the three meta-groups of cultural, administrative, and awareness obstacles.

Some similarities emerge between the perception of academics who are involved in the UBC, and those who do not participate. Both groups identify 'insufficient work time allocated by the university for academics' UBC activities' as the most relevant barrier to cooperation (means of 7.2 and 7.6 on 10 point scale). Also, 'lack of business funding for UBC' is one of the most highly rated responses for both groups.

However, some discrepancies exist between the groups: Academics in the sample who cooperate highlight the 'limited resources of SMEs' and the 'bureaucracy related to UBC' (7.1), whereas academics not cooperating with business mention the 'lack of government funding for UBC' (7.4) and their perception that 'universities lack awareness of opportunities arising from UBC' (7.2).

Main barriers to university – business cooperation

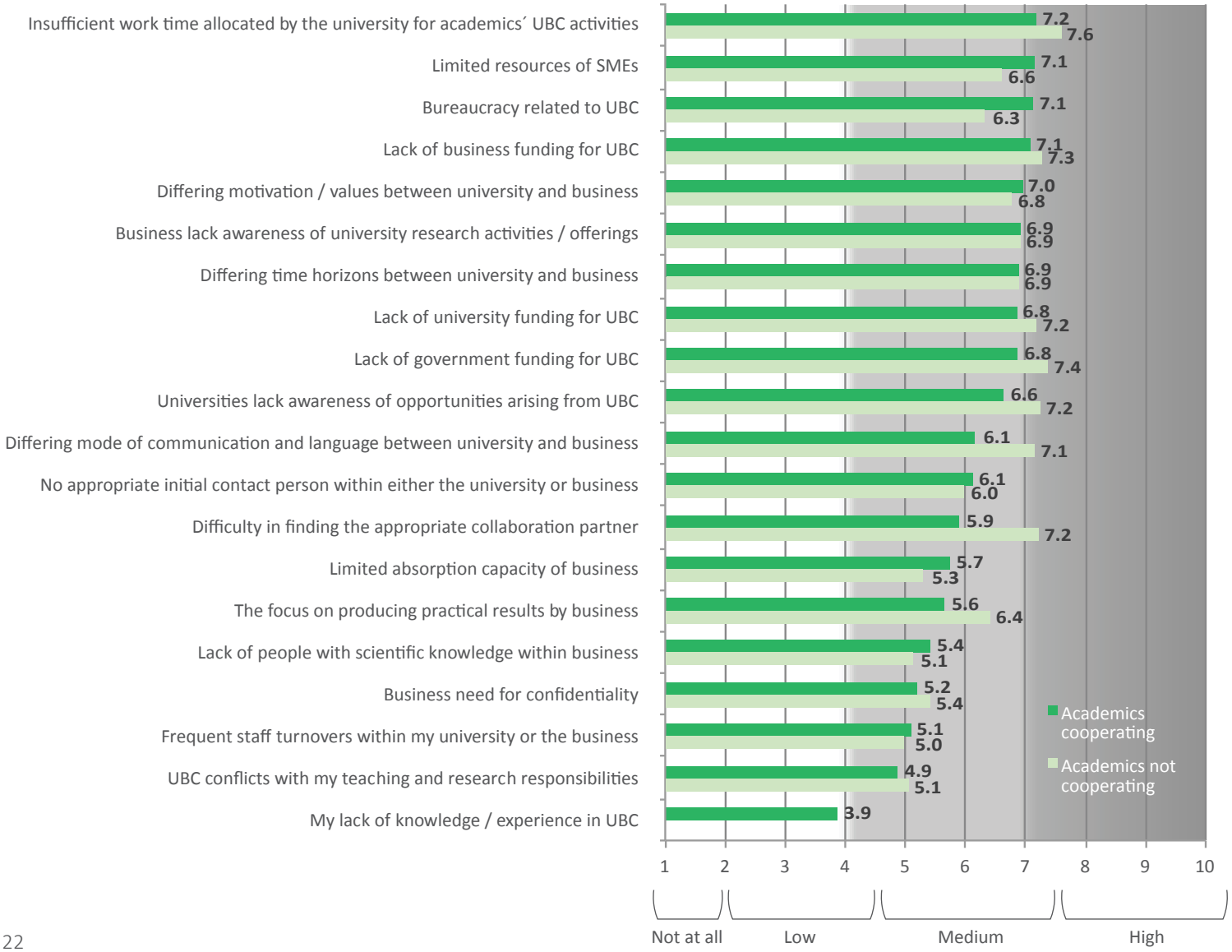
As answered by Australian academics

	Academics cooperating	Academics not cooperating
1	Insufficient work time allocated by the University for academics´ UBC activities	Insufficient work time allocated by the University for academics´ UBC activities
2	Limited resources of SMEs	Lack of government funding for UBC
3	Bureaucracy related to UBC	Lack of business funding for UBC
4	Lack of business funding for UBC	Universities lack awareness of opportunities arising from UBC
5	Differing motivation / values between university and business	Difficulty in finding the appropriate collaboration partner

Barriers hindering UBC

Main barriers to university – business cooperation

As answered by Australian academics – academics cooperating versus those not cooperating



Barriers hindering UBC

Main barriers to university – business cooperation

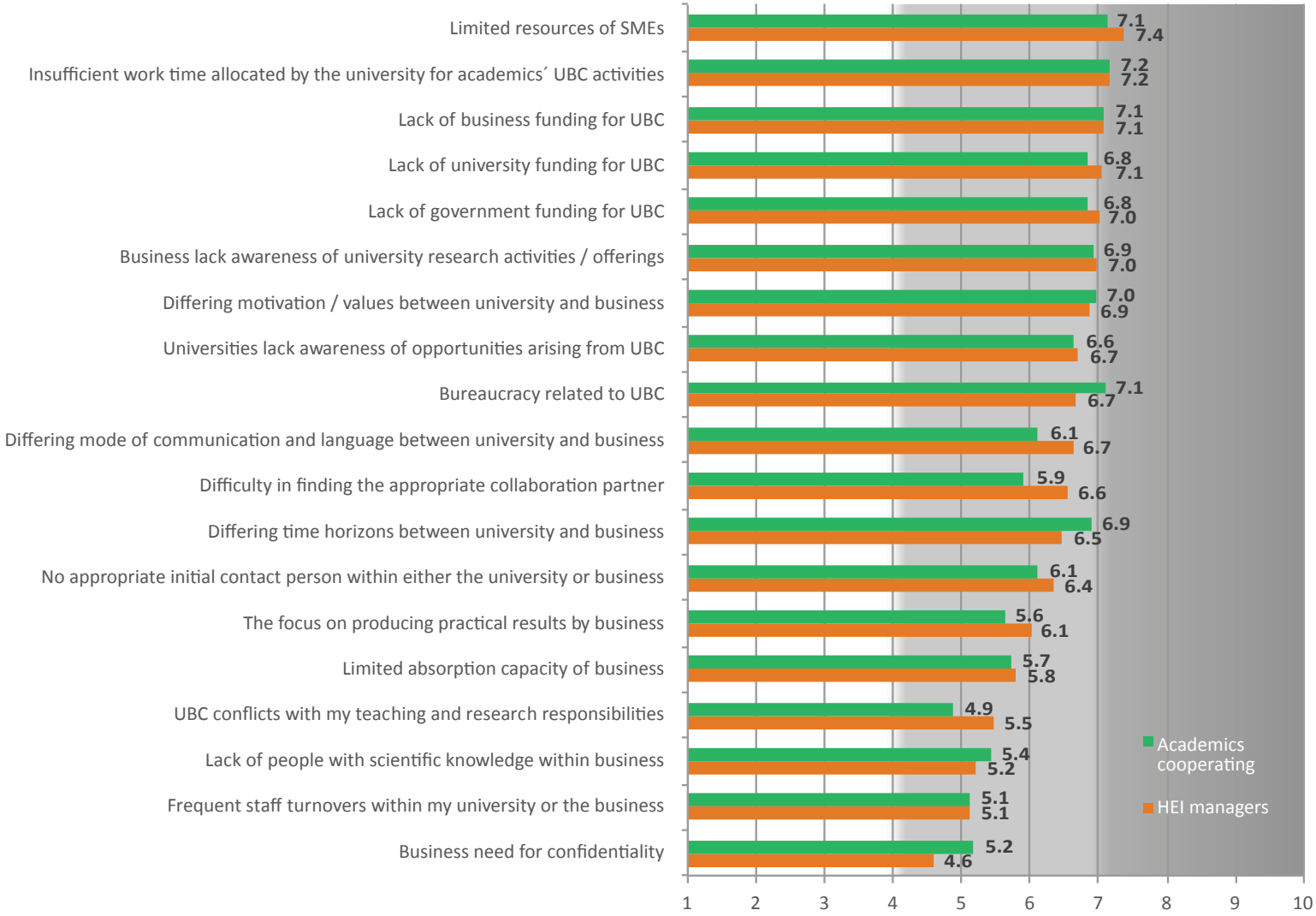
As answered by Australian HEI managers and knowledge transfer professionals

Top 5 barriers for HEI managers and KTP combined		
1	Resource barrier	Limited resources of SMEs
2	Resource barrier	Insufficient work time allocated by the university for academics´ UBC activities
3	Resource barrier	Lack of business funding for UBC
4	Resource barrier	Lack of university funding for UBC
5	Resource barrier	Lack of government funding for UBC

Barriers hindering UBC

Main barriers to university – business cooperation

As answered by Australian academics (academics cooperating) and HEI managers / KTP (combined)



The majority of barriers perceived by academics and HEI managers/KTP are somewhat similar, with both recognising the prevalence of resource barriers for UBC including time, lack of SME resources, and the lack of funding from government, business and the university listed as major barriers to UBC.

Drivers stimulating UBC

Facilitators are those factors that encourage businesses, academics or HEIs to engage in UBC. Results show that both academics and HEI managers/KTP in the sample rank the same factors within their top 5. Four of those 5 facilitators focus on the 'relationship' component of the UBC, with 'funding' emerging as the fifth facilitator. This result highlights the importance of building relationships (from the university perspective) in developing successful UBC in Australia.

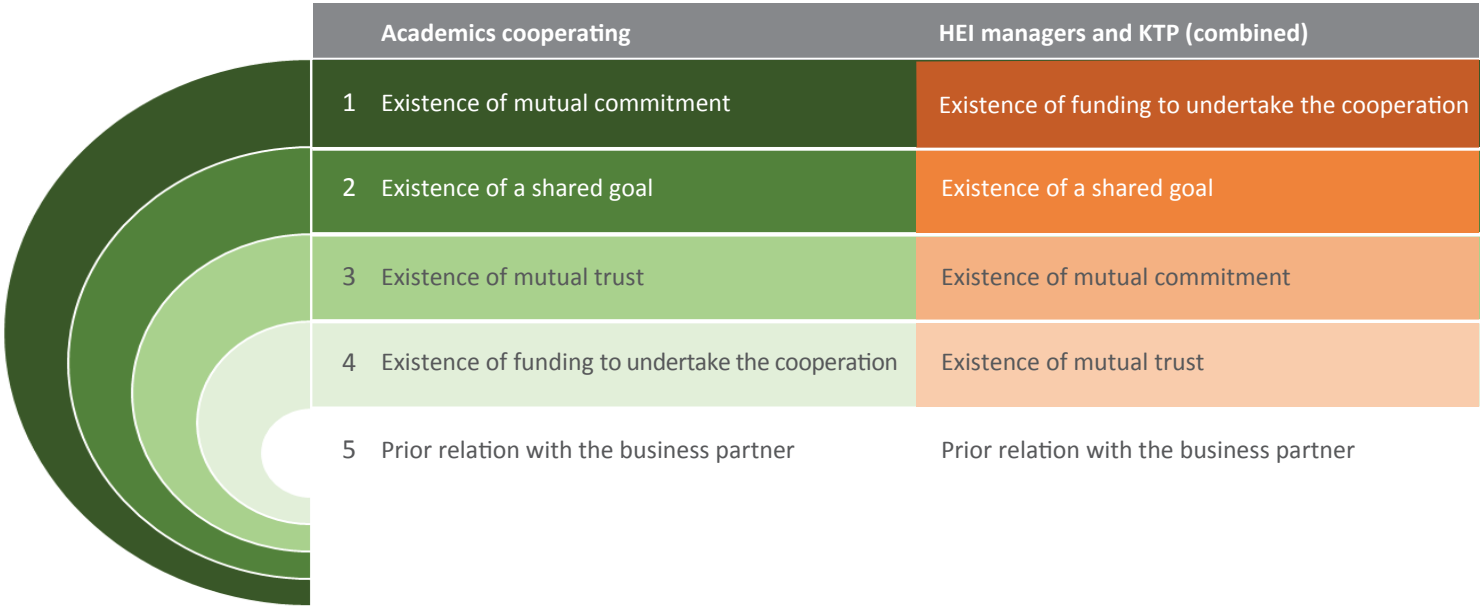
For academics, the 'existence of mutual commitment' emerges as the most prominent facilitator (8.4), whereas HEI managers/KTP nominate the 'existence of funding to undertake the cooperation' as their most relevant factor (8.4)'. The existence of 'shared goal' and 'mutual trust' also emerge as important facilitators for both groups, with ratings between 8.0 and 8.3. The perspectives of HEI Management and KTP are closely aligned in the given data.

Drivers of UBC are divided into two factors:

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

Together, these two drivers provide a comprehensive picture of what compels academics and HEI management/KTP to cooperate. The 2010-11 State of European UBC study showed that the existence of strong UBC drivers can overcome the presence of barriers to UBC.

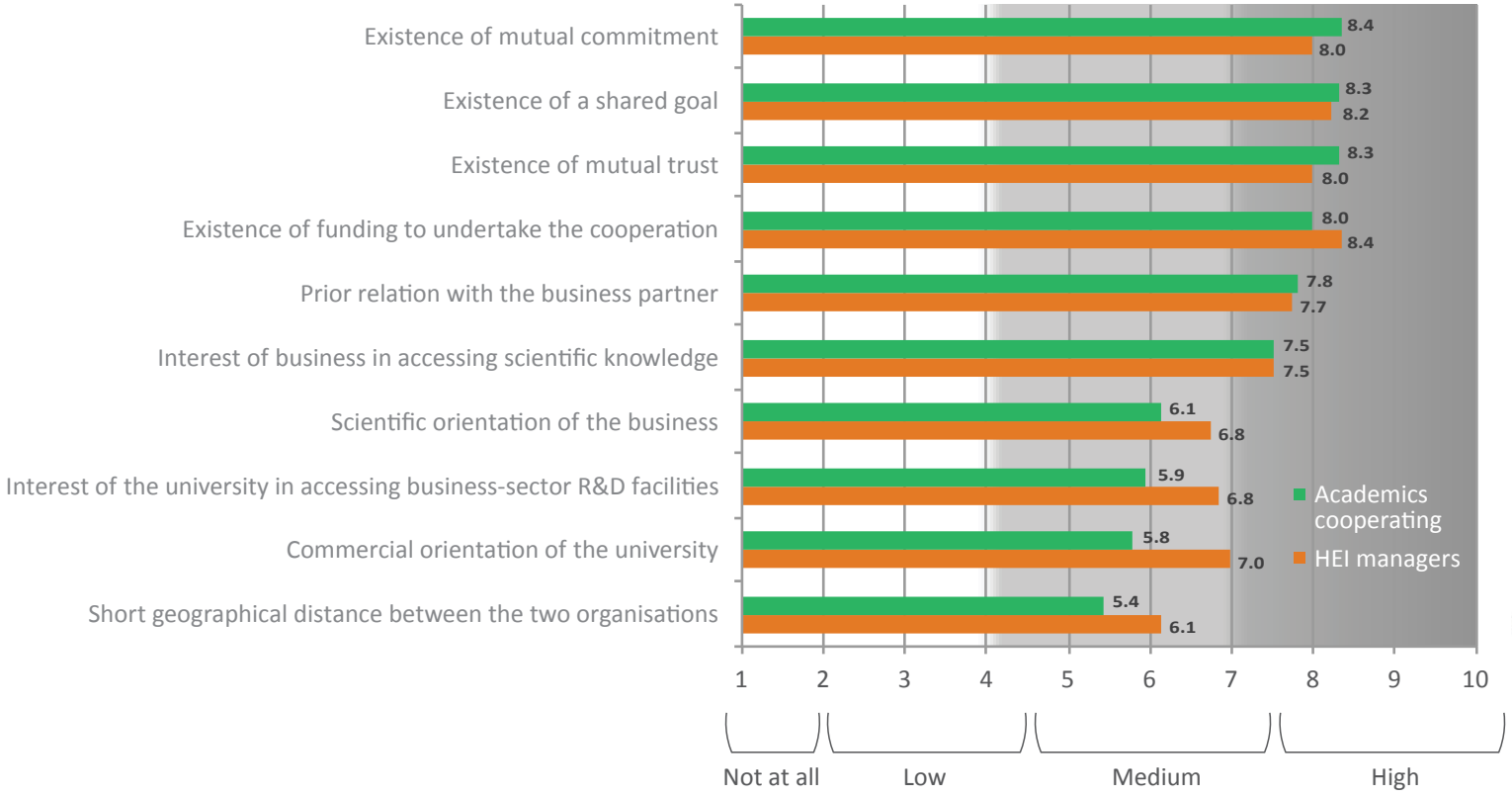
Facilitators enabling UBC



Drivers stimulating UBC

Main facilitators of university – business cooperation

As answered by Australian academics and HEI managers / KTP (combined)



In addition to 'funding' and 'relationship' facilitators, a variety of factors are seen as relevant for UBC success.

Based on the responses received from academics cooperating with businesses and HEI managers/KTP, important drivers are also the 'Interest of business in accessing scientific knowledge' (mean of 7.5 on 10-point scale). Other factors, such as 'short geographical distance between the two organisations' emerged as relevant, but not vital for cooperation to occur.

HEI managers/KTP nominated 'scientific orientation of the business', 'interest of the university in accessing business sector R&D facilities' and 'commercialisation orientation of the university' substantially higher than Australian academics in the sample.

Drivers stimulating UBC

Perceptions between the two groups of academics (those who already cooperate with businesses and those who don't) have certain similarities when asked about their motivations. Both highlight the ability to 'address societal challenges and issues' (8.3 and 7.6), 'use my research in practice' (8.5 and 7.3) and 'gain new insights for research' (8.4 and 7.1) as some of the most relevant factors to trigger cooperation.

Yet, those academics in the sample who cooperate with business rate motivators aligned to the use of current research for practice and the development of research based on business insights higher. Conversely, academics in the sample not cooperating with business rate motivators related to other stakeholders (e.g. employability of graduates, societal needs, mission of the university) more strongly. Interestingly, 'increase my chances of promotion' was considered the least important factor by both groups of academics in the current data collection.

Motivators

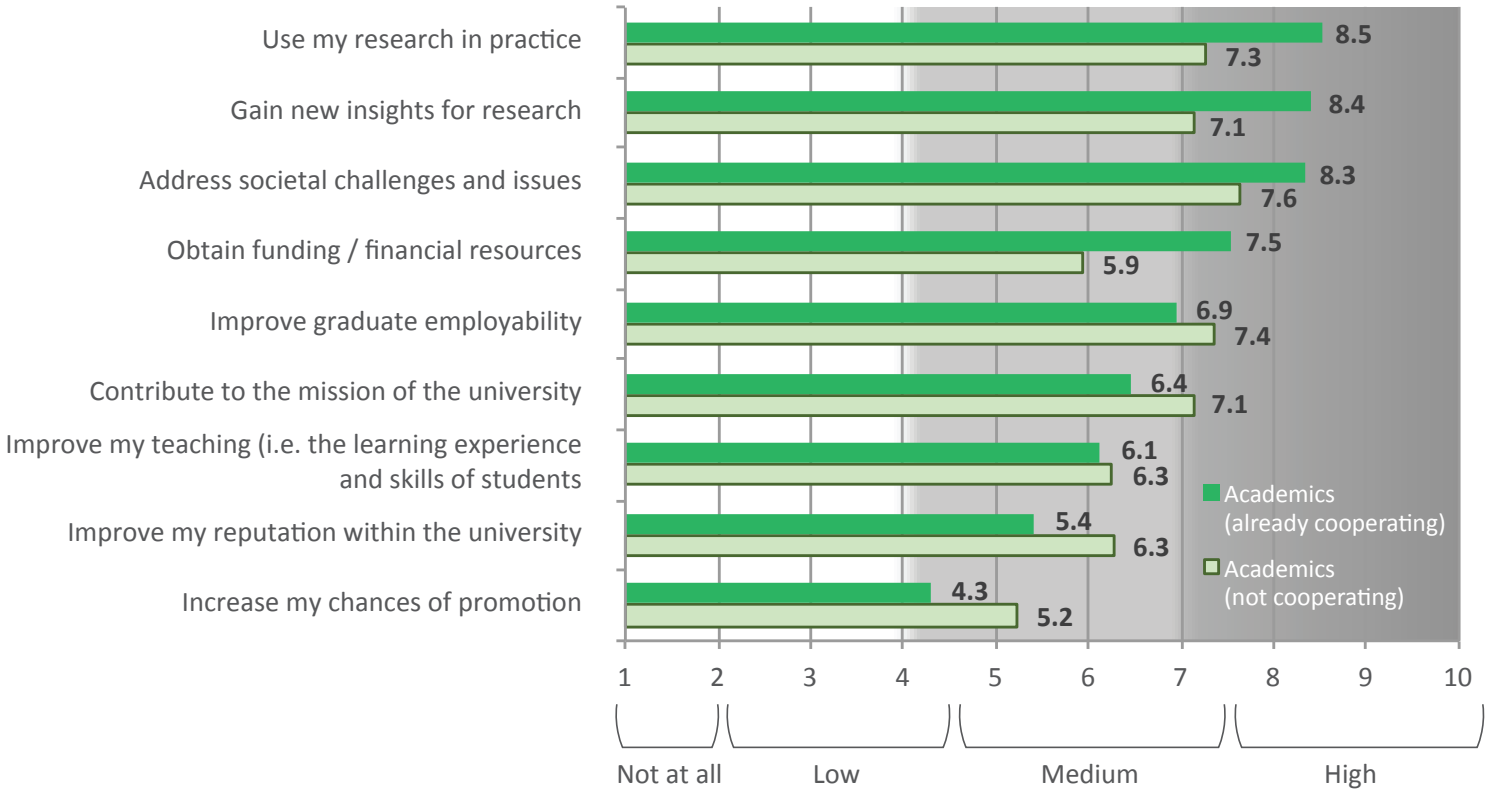
As answered by Australian academics – academics cooperating versus those not cooperating

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

Drivers stimulating UBC

Motivations for university-business cooperation

As answered by Australian academics (cooperating and not cooperating)



Drivers stimulating UBC

The top 5 motivators as identified by HEI managers and KTP (combined) relate to 'society', 'competitiveness' and 'resources'.

When asked about the most important factors that motivate HEIs to cooperate, HEI managers/KTP identified a range of motivators as relevant. Indeed, a total of 7 motivations received mean scores between 7.7 and 8.0 (on a 10-point scale), with the ability 'to positively impact society' receiving the highest ranking. 'To use the university's research in practice' (7.3) and 'to improve the university's teaching' (6.9) were seen as the least ranked yet still relevant motivators.

The perspectives of HEI Management and KTP are closely aligned in the given data.

Motivations for university – business cooperation

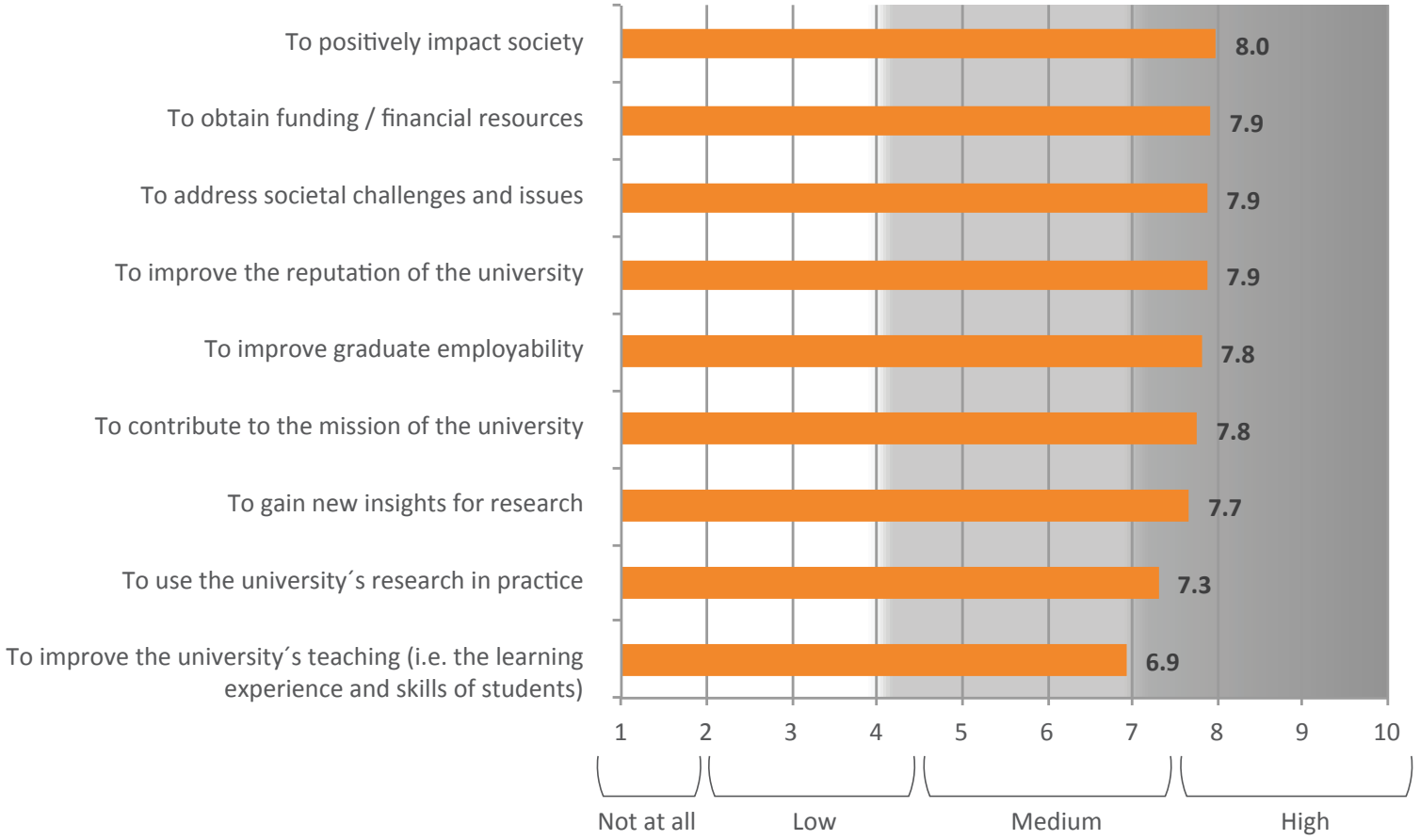
As answered by Australian HEI managers and KTP (combined)

	Top 5 motivations	
1	Society	To positively impact society
2	Resources	To obtain funding / financial resources
3	Society	To address societal changes and issues
4	Competitiveness	To improve the reputation of the university
5	Competitiveness	To improve graduate employability

Drivers stimulating UBC

Motivations for university – business cooperation

As answered by Australian HEI managers and KTP (combined)



Benefits of cooperation

Academics and HEI managers/KTP were asked to what extent various stakeholders receive benefits from cooperation.

Both groups defined the same primary and secondary beneficiaries: Universities and businesses are perceived as the most likely to benefit from cooperation. Furthermore, both groups of respondents selected Government and public authorities as the least likely to gain positive outcomes from the UBC.

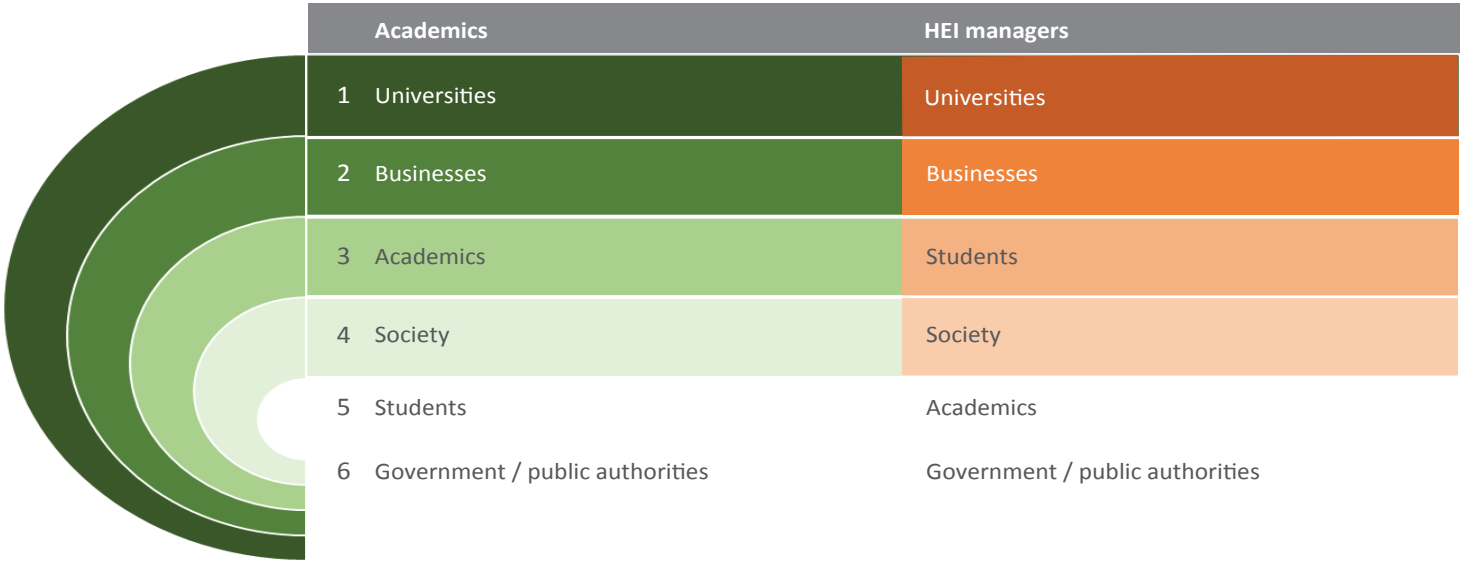
Yet, the responses of academics and HEI managers/KTP differed in their perception of benefits relating to other stakeholders, namely 'Academics', 'Society' and 'Students'. While academics place themselves as the third group most likely to receive benefits from cooperation, HEI managers/KTP see 'Academics' as less likely receivers of that positive outcome (5th place).

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.

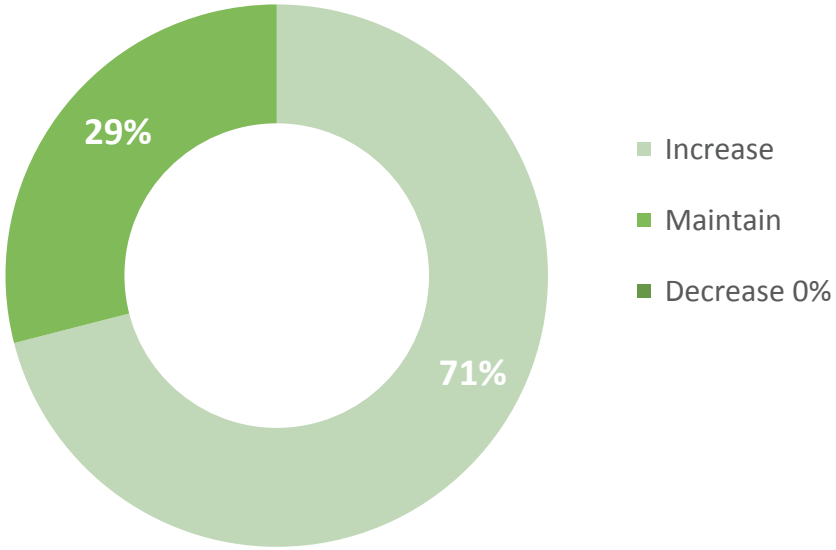
One's perception regarding who benefits from such cooperation can influence one's decision to increase or decrease their participation or the involvement of other groups. For example, if academics perceive their own *benefits* to be low, they may refrain from engaging in UBC. Yet, if they perceive *benefits* for students to be high, they might undertake actions that contribute to students' involvement in UBC.

Motivations for university – business cooperation

As answered by Australian academics and HEI managers/KTP (combined)



Future intentions



Academics showed a very strong commitment to the UBC, with 100% of responding academics with cooperation experience expecting to ‘Maintain’ or ‘Increase’ their cooperation. In this sense, Australia proves to be a very receptive market for UBC, with positive momentum for the future.

Willingness to recommend UBC

How likely is it that you would recommend to an academic colleague to engage in UBC?

Australian academics were questioned about their willingness to recommend that their peers cooperate with businesses. Using the *Net Promoter Score* metric, a proxy for customer satisfaction, it can be seen that there is a wide gap in the level of support towards UBC between academics engaged in R&D versus E&T type cooperation, with R&D receiving a higher score (53%) than E&T (6%).

While a high percentage of academics engaging in E&T-related cooperation and those engaging in R&D related cooperation self-define as 'Promoters' of UBC, a significantly larger number of respondents nominate themselves as 'Detractors' in the field of E&T (35%) compared to Research (9%).

These perceptions are reflected in the net promoter scores of both groups, with academics involved in R&D cooperation having a much more possible response compared to those involved in E&T cooperation (53% and 6%).

Willingness to recommend R&D and education and training (E&T) cooperation with businesses

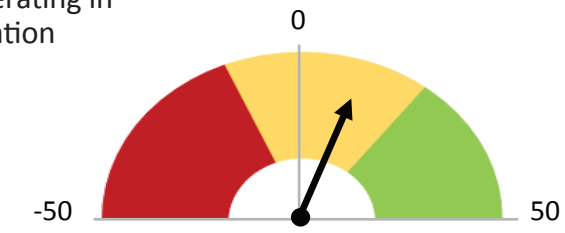
As answered by Australian academics

	Detractors	Passives	Promoters
Academics cooperating in E&T	*35%*	*24%*	*43%*
Academics cooperating in R&D	*9%*	*28%*	*14%*

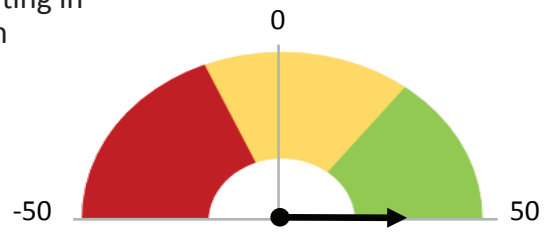
Net promotor score
6%
53%

Satisfaction in cooperation with businesses (net promoter score)

Academics cooperating in education



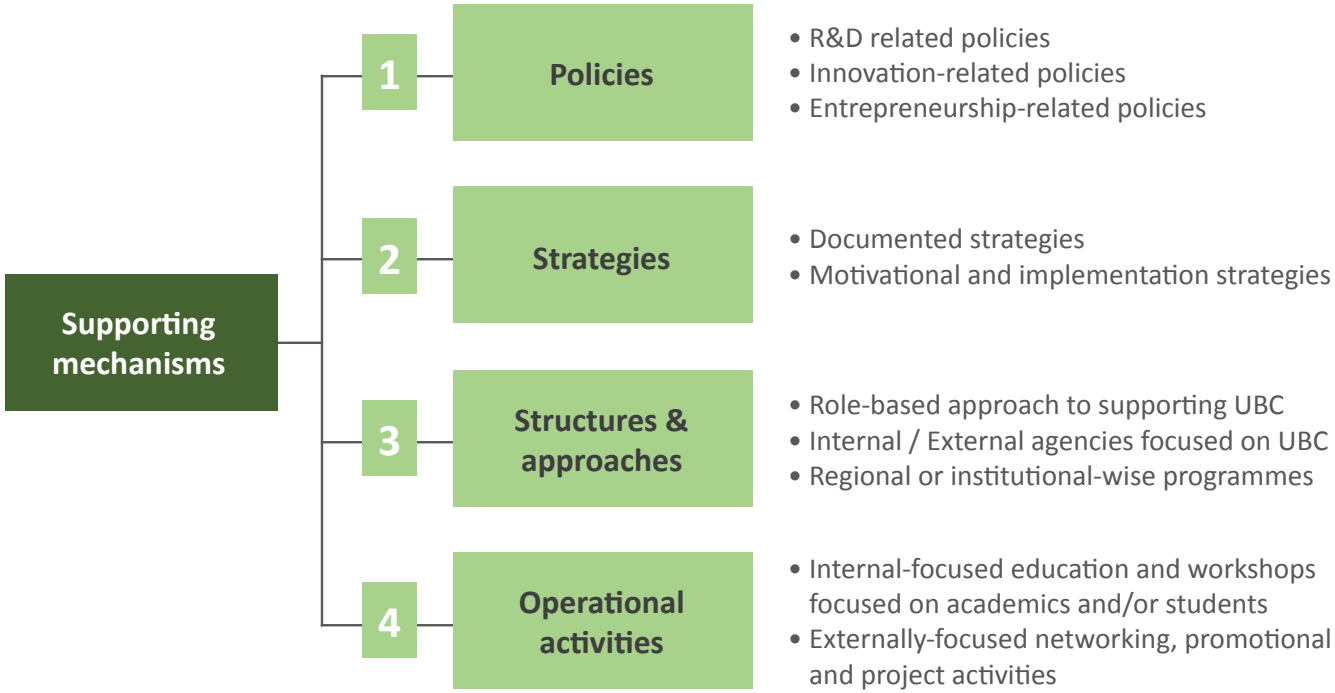
Academics cooperating in research



Supporting mechanisms for UBC

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

This section outlines the extent to which UBC *Supporting mechanisms* are developed in this Australian sample from the HEI perspective. The development of these mechanisms has been found to significantly influence cooperation.



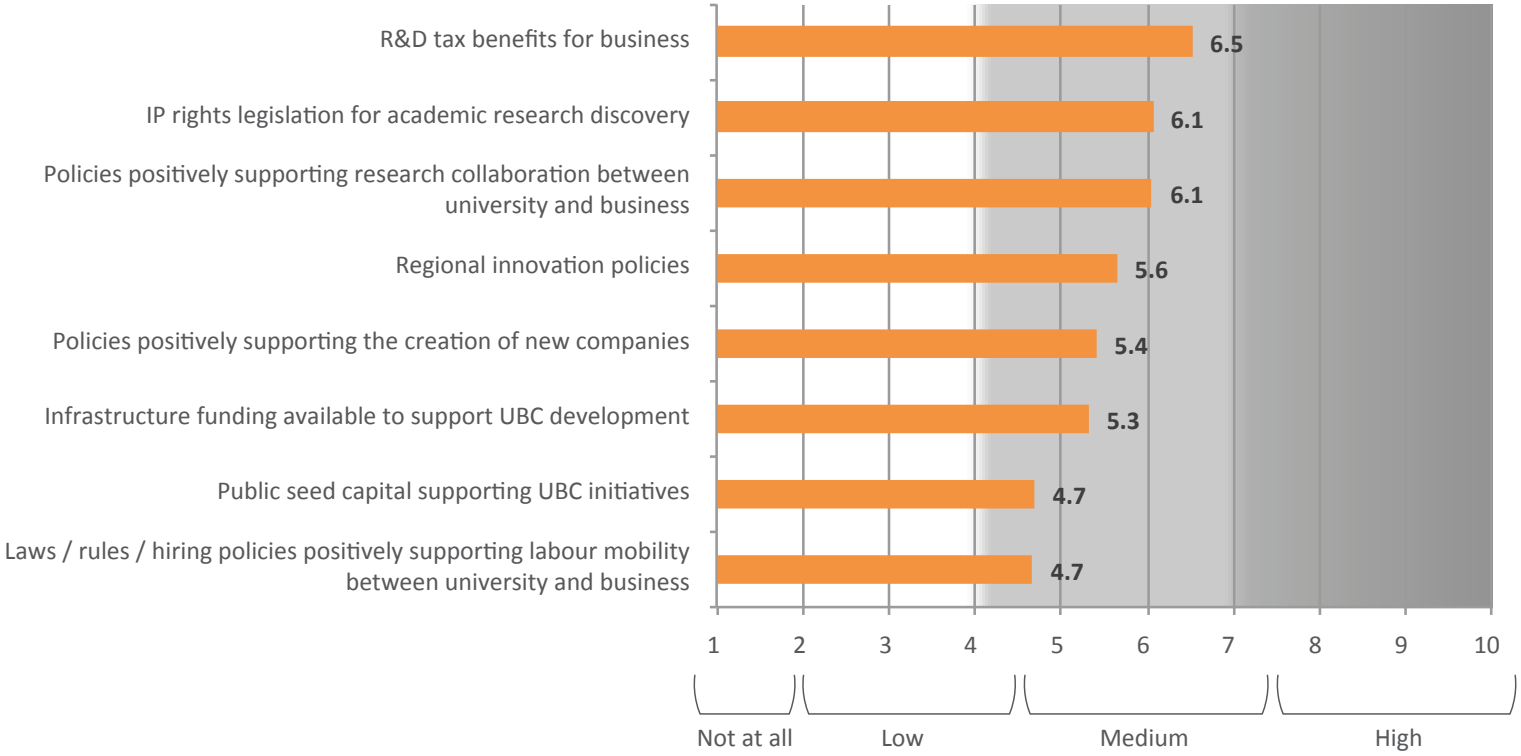
Supporting mechanisms for UBC

When asked about how developed public policies are that could impact the extent of UBC, Australian HEI Managers/KTP rated 'R&D tax benefits for business' most highly (mean 6.5 on 10-point scale), followed by 'IP rights legislation for academic research discovery' and 'policies positively supporting research collaboration between university and business' (both with 6.1). The lowest score emerged in relation to 'law/rules/hiring policies positively supporting labour mobility between university and business' and 'public seed capital supporting UBC initiatives' (4.7).

While the perspectives of HEI Management and KTP are generally aligned in regards to these policies, some differences emerge. In particular, KTP rate IP rights legislation higher than HEI Management (6.6 versus 5.5).

Policy development for UBC

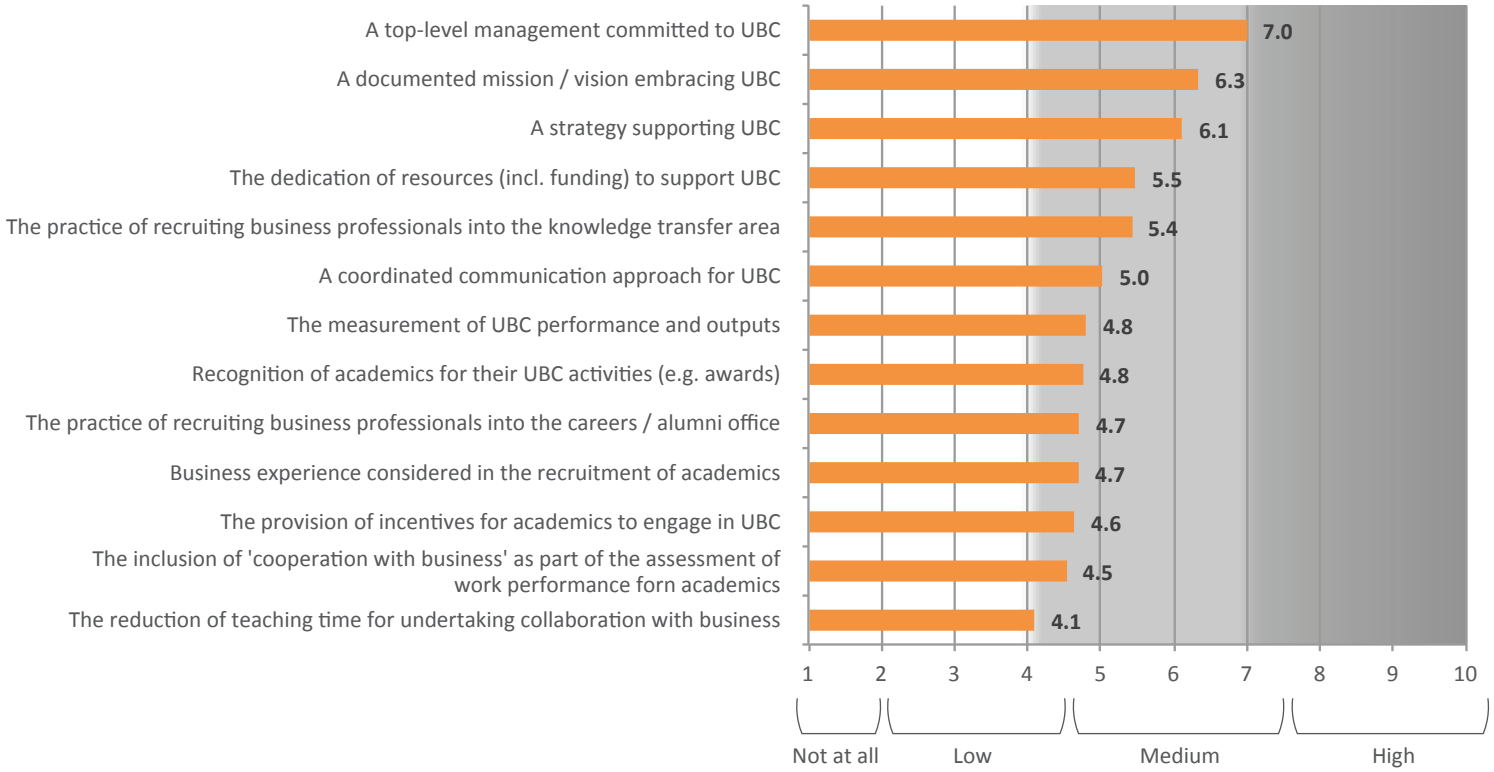
As answered by Australian HEI Managers / KTP (combined)



Supporting mechanisms for UBC

Strategy development for UBC

As answered by Australian HEI Managers / KTP (combined)



HEI Managers/KTP were asked to rate how developed various UBC strategies are within their HEI. Responses indicate the institutional commitment to UBC as most strongly developed, including 'a top level management committed to UBC' (mean of 7.0 on 10-point scale), 'a documented mission/vision embracing UBC' (6.3) and 'a strategy supporting UBC' (6.1). Lesser developed mechanisms relate to staff recruitment, including 'the practice of recruiting business professionals into the knowledge transfer area' (5.4) and 'business experience considered in the recruitment of academics' (4.7). Mechanisms perceived by respondents as not highly developed include rewards for academics to cooperate, such as 'the provision of incentives for academics to engage in UBC' (4.6), 'the inclusion of cooperation with business as part of the assessment of work performance for academics' (4.5) and 'the reduction of teaching time for undertaking collaboration with business' (4.1).

The perspectives of HEI Management and KTP are aligned in regards to strategies.

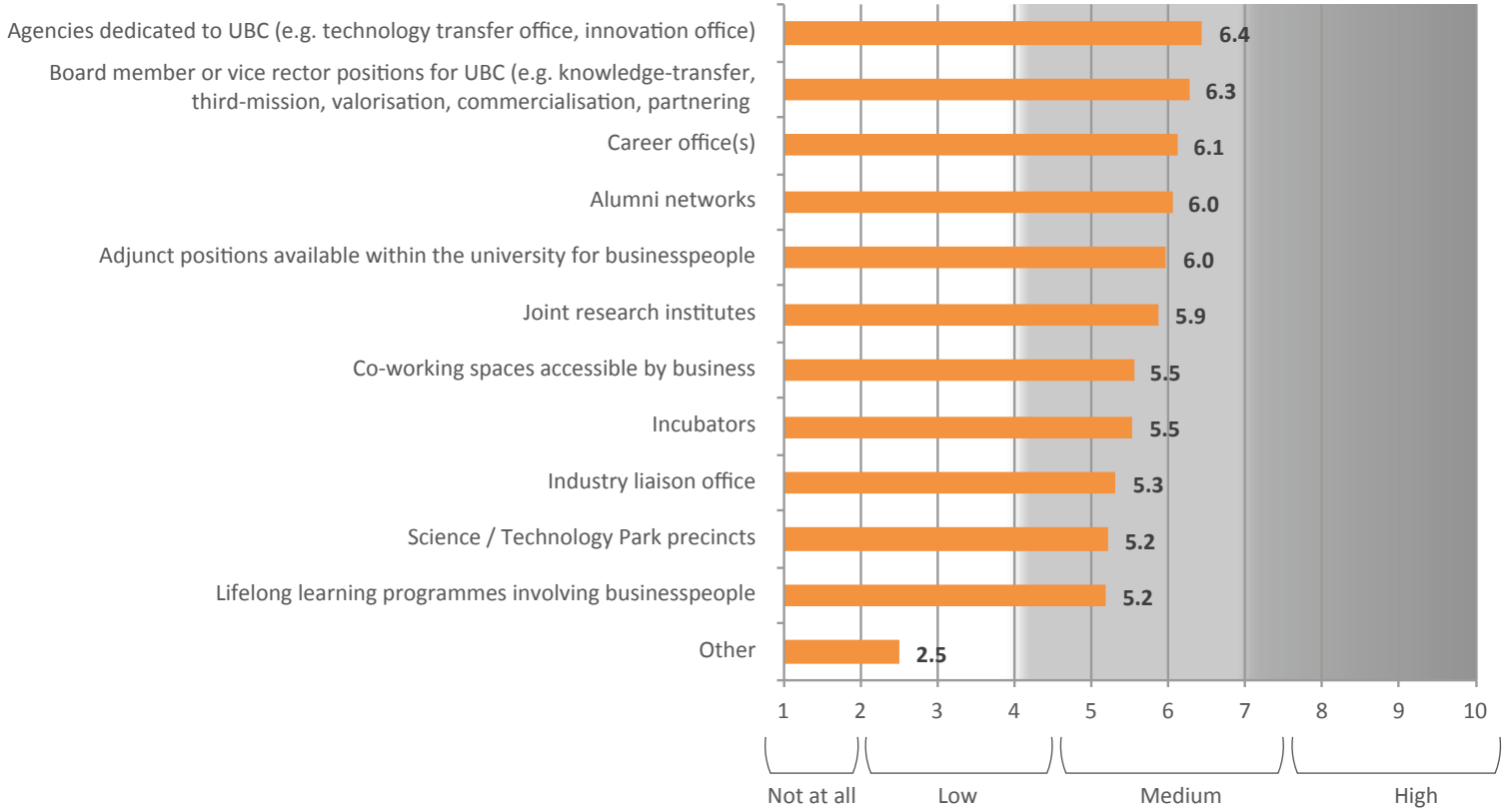
Supporting mechanisms for UBC

Within the wide range of structures relevant for the delivery of UBC, Australian HEI managers identify 'agencies dedicated to UBC' (mean 6.4 on 10-point scale) and 'board member or vice rector positions for UBC' (6.3) as the most developed structures. On the other hand, 'Science/ Technology Park precincts' and Lifelong learning programmes are perceived by the respondents as less developed (5.2).

While the perspectives of HEI Management and KTP are generally aligned in regards to these policies, some differences emerge. In particular, KTP view business-accessible co-working spaces as a less developed structure as compared to HEI Management (4.9 versus 6.1). They also rate the availability of adjunct positions as less developed (5.5 versus 6.4).

Structures and approaches development for UBC

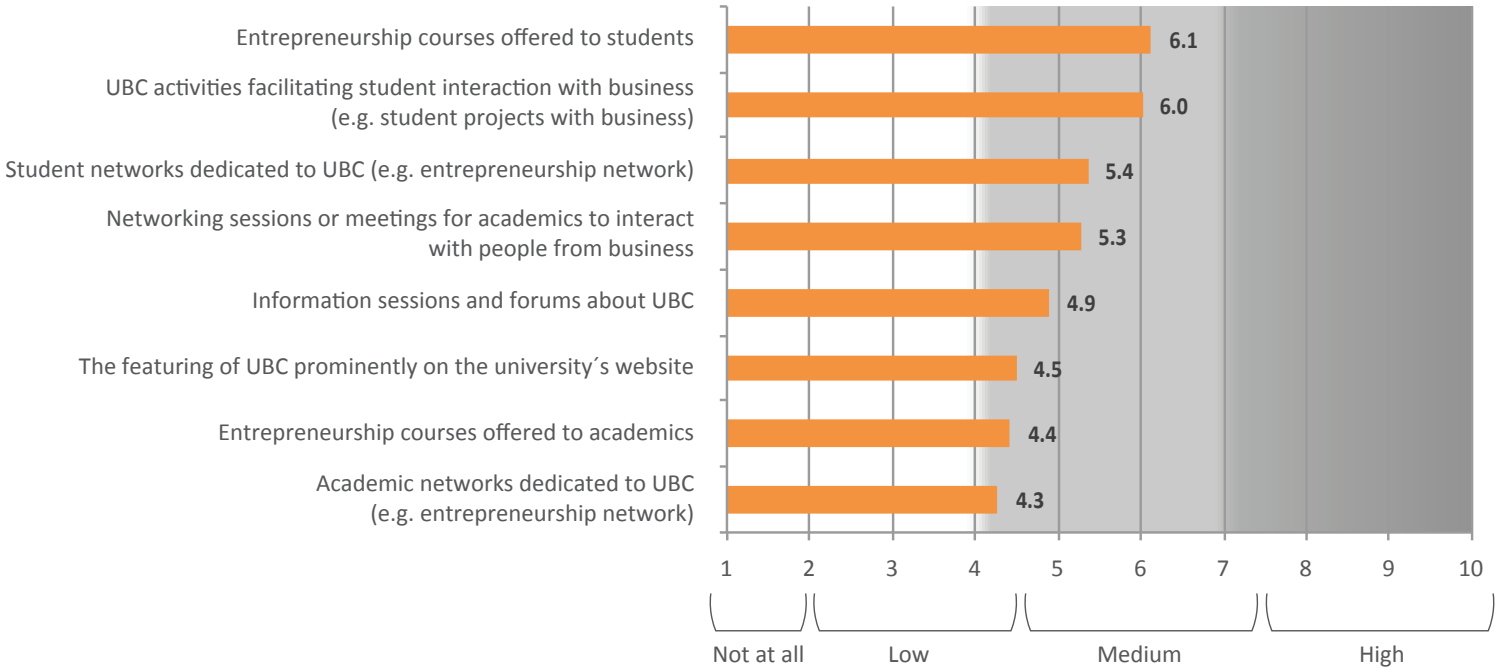
As answered by Australian HEI Managers / KTP (combined)



Supporting mechanisms for UBC

Activity development for UBC

As answered by Australian HEI Managers / KTP (combined)



Australian HEI managers/KTP were also asked to comment on the development of a range of UBC activities. Overall, student-centred activities are perceived as most developed, such as 'entrepreneurship courses offered to students' (mean 6.1 on 10-point scale), 'UBC activities facilitating student interaction with businesses' (6.0) and 'student networks dedicated to UBC' (5.4).

Activities focused on academics, on the other hand, are perceived as less developed, with 'academic networks dedicated to UBC' and 'entrepreneurship courses offered to academics' ranking last on the list of activities.

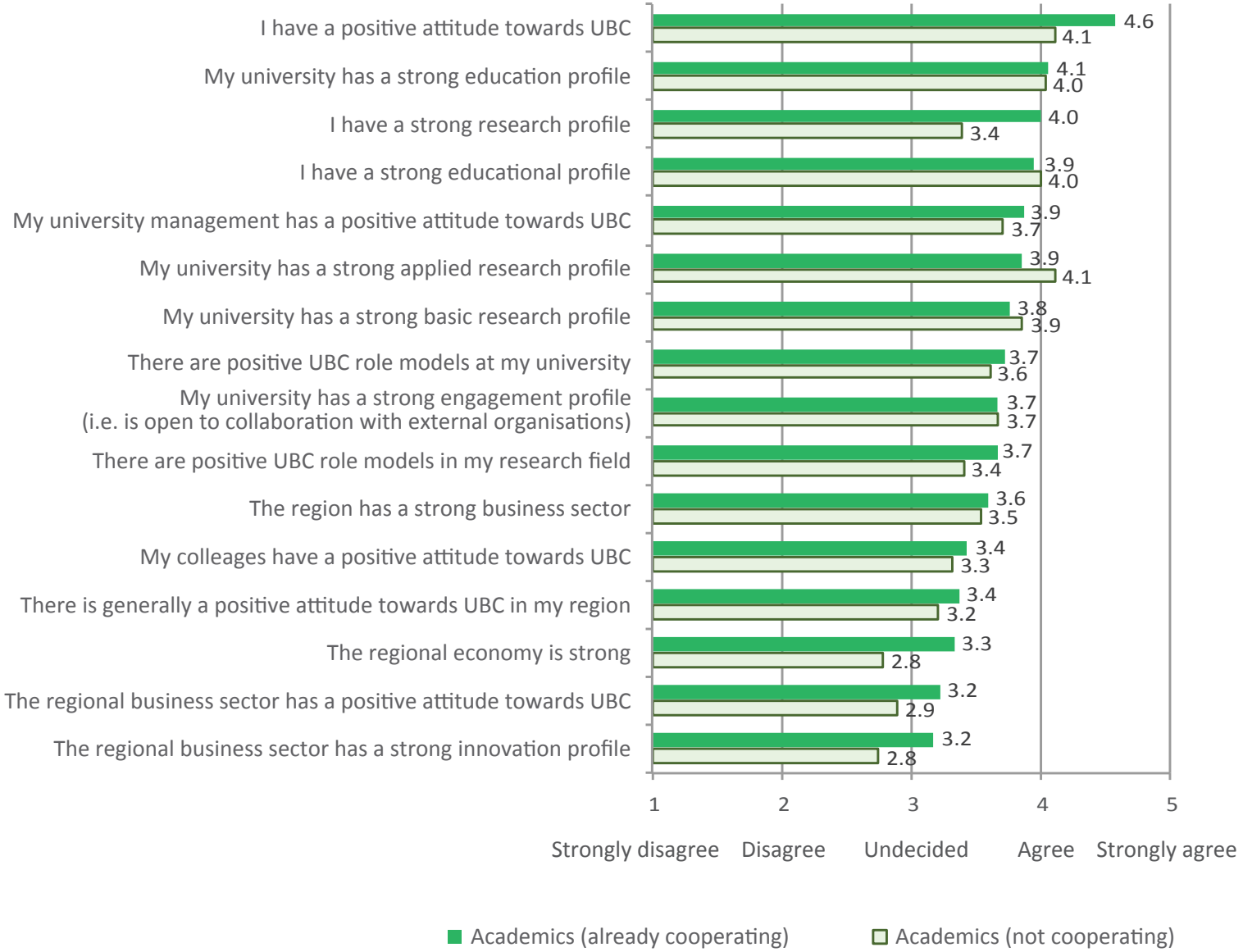
The perspectives of HEI Management and KTP are closely aligned in regards to activities.

Supporting environment

Academics were asked to indicate their level of agreement with a range of statements related not only to the UBC environment, but also to their personal profile. The two groups of 'academics already cooperating' and 'academics not cooperating' with business emerge as having very similar views. 'I have a positive attitude towards UBC' emerges as the most strongly supported comment (mean of 4.6 and 4.1 on 5-point scale), with 93.7% of respondents either agreeing or strongly agreeing with this statement.

Yet only few academic respondents perceived regional business to have a positive attitude towards UBC (17.9%).

As answered by Australian academics



UBC capabilities

As answered by Australian academics

Focusing on the academics that have experience in UBC, a series of questions regarding their perceived capabilities were raised. Respondents identified their strengths, with the highest scores awarded to 'I have a lot to offer to business in research' (mean of 4.3 on 5-point scale) and 'I have the capability to transfer/exchange knowledge and technology to/with business' (4.3), with 88.3% and 93.2% of respondents agreeing with these statements respectively.

The lowest score emerged in relation to 'I have sufficient support to undertake UBC' (3.1) – a statement with which 43.8% of responding academics agreed.

GLOBAL UNIVERSITY ENGAGEMENT MONITOR

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Final Note

This report provides a HEI perspective on university-business cooperation (UBC), drawing on a survey of Australian businesses conducted late 2016 to early 2017.

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 requiring future development.

THE UNIVERSITY of ADELAIDE

Munich Business School
University of Applied Sciences

Science Marketing_
Science-to-Business Marketing Research Centre Germany

UIIN
University Industry Innovation Network

Background

This report is part of the Global University-Business Monitor initiative, a global study into university engagement and cooperation between university and business.

The study is already the largest study into university engagement worldwide running in more that 50 countries world since 2011. Further information can be found at www.uni-engagement.com

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