



Brief Report

**Collaborations between
academic and non-
academic sectors in the
Wallonia-Brussels
Federation**

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Observatory of Research and Scientific Careers – F.R.S.–FNRS

Thanks to funding from the Wallonia-Brussels Federation (WBF), the Observatory of Research and Scientific Careers was created in September 2018. Integrated in the F.R.S.–FNRS, this structure aims, among other things, to track and analyse the careers of researchers in the WBF through surveys and data cross-referencing. In collaboration with the WBF universities, the Observatory is responsible for developing knowledge on the doctoral and postdoctoral process. It makes recommendations to facilitate the professional transition of PhD holders and optimise the doctoral process in order to meet the expectations of researchers and society. Particular attention is paid to the various obstacles to a scientific career: stereotypes and discrimination related to gender, constraints related to the requirement of international mobility, impact of the pressure to publish early in one's career, etc. The results of surveys and analyses are systematically published on the site: <http://www.observatoire.frs-fnrs.be>

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Introduction



The importance of collaborations between academic and non-academic sectors is increasingly being recognised (Giones, 2019). It is well established that these collaborations drive innovation and promote the dissemination of knowledge from universities to society (Elia et al., 2017). Partnering with non-academic organisations can provide the university economic benefits, such as financial resources, and academic benefits, such as the exchange of information that can generate new ideas for research projects (Tartari & Breschi, 2012). Numerous studies have also demonstrated that academics who collaborate with industry have higher levels of scientific productivity (e.g., publications; Garcia et al., 2020), as well as increased commercial output (e.g., patents; Gulbrandsen & Smeby, 2005). Moreover, collaborations play a pivotal role in facilitating the employment of PhD holders (Mortier, Wille, Levecque, in press). Non-academic organisations that collaborate with universities are more likely to hire PhD holders compared to those that do not (Garcia-Quevedo et al., 2012).

From the point of view of non-academic organisations, collaborations with universities allow them to enhance their economic competitiveness, gain easier access to new technologies, and build a network of qualified experts (Guerrero et al., 2019).

While collaborations hold significance, academic and non-academic sectors differ in a number of ways that can influence their collaborative efforts. Firstly, they operate under distinct incentive systems. Universities primarily aim to generate new knowledge and provide education. Establishing a reputation through publications is crucial for gaining a competitive edge. In contrast, non-academic organisations outside the public sector focus on acquiring valuable knowledge that can be used for economic purposes (Bruneel et al., 2010). Secondly, although universities are paying increasing attention to activities such as intellectual property, the nature of the knowledge produced by the scientific community is relatively open. However, knowledge created within the private sector tends to be predominantly closed, confined within the company and used for private gain (Bruneel et al., 2010).



Goal of this report

Given the differences between academic and non-academic sectors, it is important to understand the characteristics of these collaborations in the WBF and analyse the factors that foster or hinder these collaborations (Perkmann et al., 2013).

Accordingly, this report attempts to provide an overview of the landscape of collaborations between academic and non-academic organisations in the WBF. Based on the perspective of 614 respondents working in organisations outside academia, who participated in a survey conducted by the Observatory, we ask the following questions:

- Does the non-academic sector collaborate with universities?
- Are respondents satisfied with their experiences of collaboration with universities?
- What factors motivate non-academic organisations to collaborate with universities?
- What are the obstacles to successful collaboration with universities?



Sample characteristics

Recruiting Talents

We used data from the "Recruiting Talents" survey, which was conducted online in 2021. The survey included 614 participants (29.8% female) based primarily in Wallonia or Brussels. Of these, 89.6% (n = 542) held supervisory positions such as managers or CEOs, with an average of 7.2 years of professional experience in their current role. 39.7% (n = 240) indicated possessing a doctoral degree, and 76.5% (n = 414) reported having staff members with a doctorate in their organisation. These participants represent 17 different activity sectors. The most represented sectors are: 31.9% in professional, scientific, and technical services, 18.0% in public administration, 12.4% in manufactured products.

Most organisations in the sample were autonomous (68.6%), while 21.4% were part of multinational groups and 10.0% were part of national groups. In terms of size, 38.2% of participants belonged to large organisations (250 or more employees), 23.8% to medium-sized organisations (50 to 249 employees), 25.1% to small organisations (10 to 49 employees), and 12.8% to micro-organisations (1 to 9 employees).

Please refer to our first report ([Bebiroglu, et al., 2022](#)) for more details about the sample characteristics and the recruitment procedure.

39.7%

of participants indicated to hold a doctoral degree.

1 Does the non-academic sector collaborate with universities?



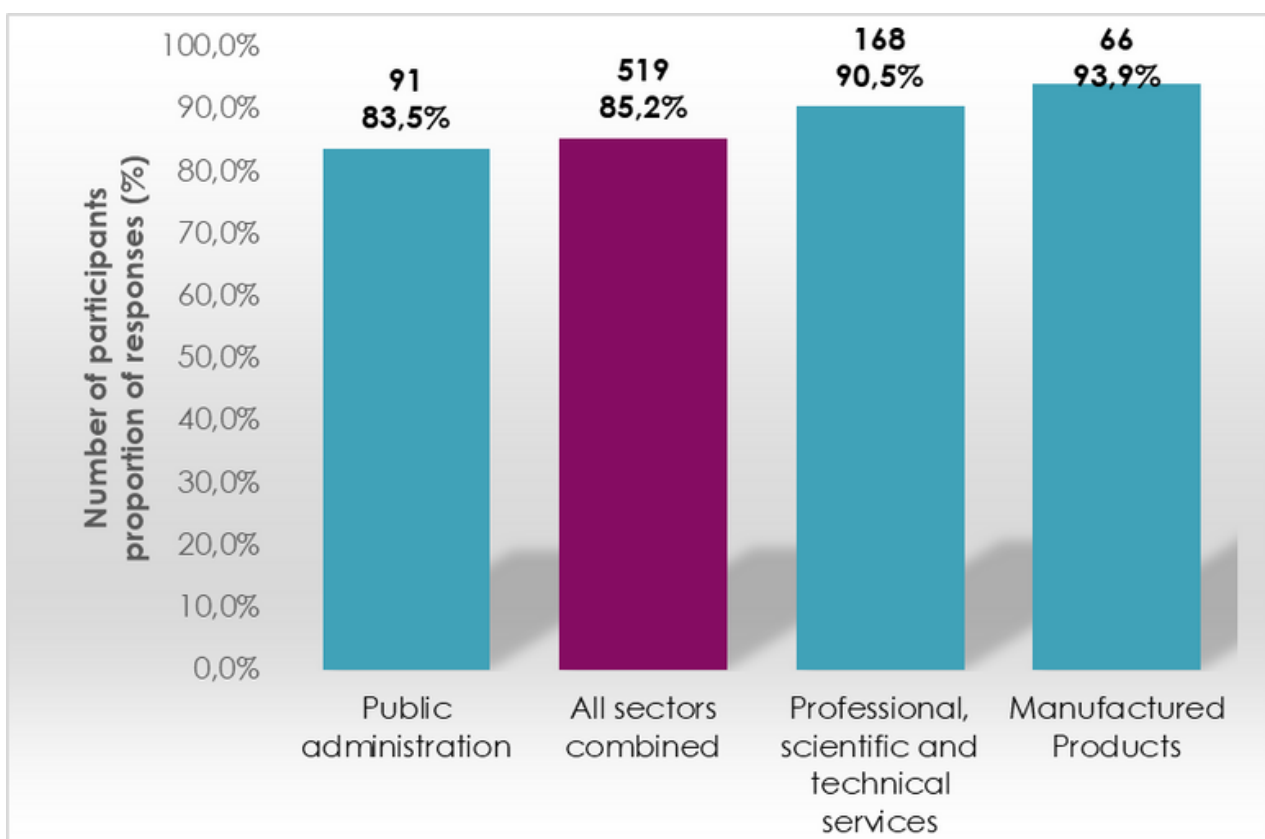
Collaborations

We asked participants whether within the framework of its activities, their organisation had previously collaborated with a university (individual scientists or a research laboratory). A large majority of respondents (85.2%; n = 442) indicated that their organisation had collaborated with a university. Among those who answered negatively to this question (8.9%; n = 46), 28 indicated that their organisation would nevertheless be interested in future collaboration with a university.

85.2%

of respondents in our sample indicated that within the framework of its activities, their organisation had collaborated with a university.

Figure 1. The percentage of respondents who answered "yes" to the question "Within the framework of its activities, has your organisation previously engaged in collaboration with a university (individual scientists or a research lab)?", by sector of employment (n = 442)





With which universities?

We asked participants who indicated to collaborate with a university (n = 442) with which university or universities their organisation collaborated. They had the possibility to choose more than one of the following:

- a university/universities in WBF
- a university/universities in Flanders
- a university/universities outside of Belgium
- I don't know

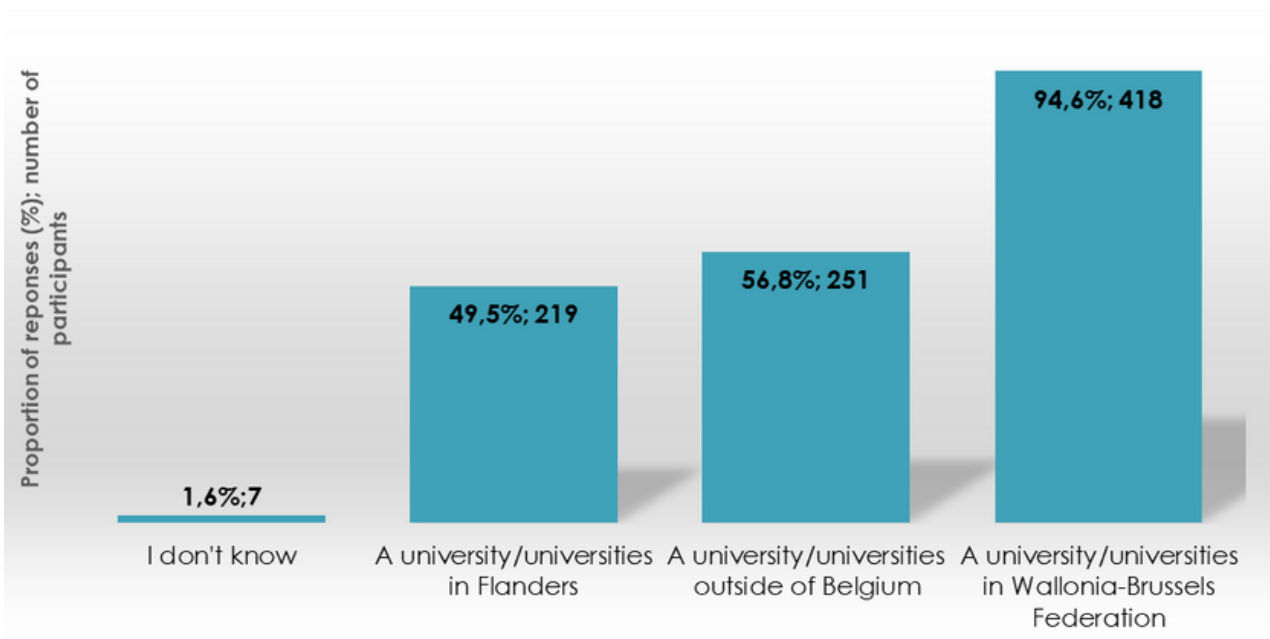
A high number of participants reported collaborating with universities in the WBF (n = 418), followed by universities outside of Belgium (n = 251) and in Flanders (n = 219). A total of 173 respondents were from organisations that engaged in collaborations with universities in the WBF, Flanders, as well as outside of Belgium. It is important to note that 381 respondents from our sample stated that they collaborated exclusively with universities in the WBF.

Among
respondents whose
organisation
collaborate with
universities

94.6%

reported
collaborating with
universities in the
WBF.

Figure 2. Among respondents whose organisation engage in collaborations with universities answers to the question "With which university(ies)"? (n = 442)



2 Are respondents satisfied with their experiences of collaboration with universities?

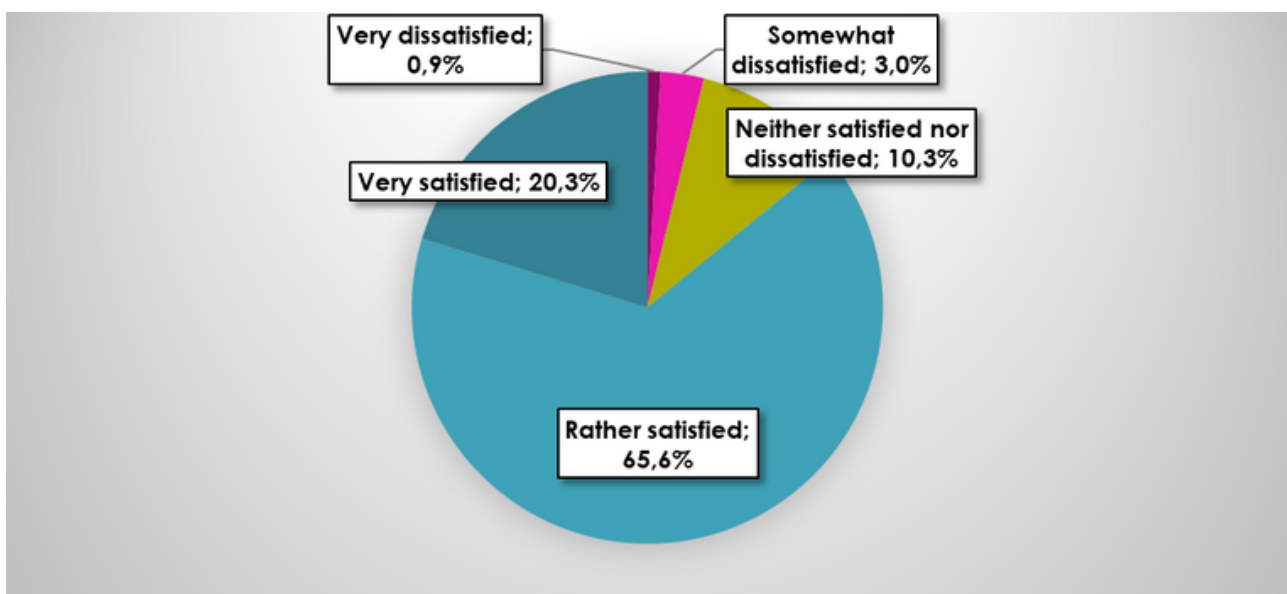
Satisfaction

We asked respondents who indicated to collaborate with universities (n = 442) to rate their level of satisfaction on a five-point scale ranging from 1 = "very dissatisfied" to 5 = "very satisfied". 85.9% reported being rather satisfied or very satisfied with their collaboration with universities. This percentage was 85.5% for respondents whose organisations collaborate exclusively with universities in the WBF (n = 379), 87.0% for those that collaborate exclusively with universities in Flanders (n = 54), and 82.1% for those that collaborate exclusively with universities outside of Belgium (n = 78).

85.9%

of respondents reported being satisfied or very satisfied with their collaboration with universities.

Figure 3. Among respondents whose organisation collaborate with universities answers to the question "Are you generally satisfied with your collaboration with universities?" (n = 442)



3 What factors motivate non-academic organisations to collaborate with universities?



Main motivations

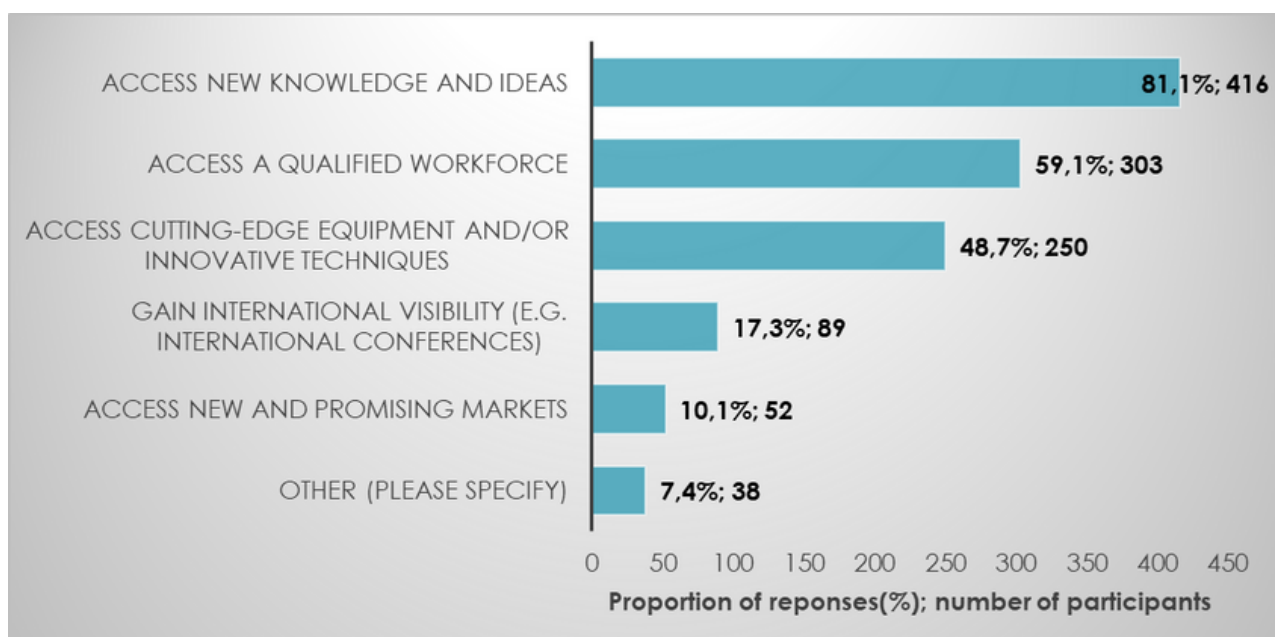
We asked the participants in our survey to indicate the factors that encouraged organisations to collaborate with universities. Respondents could select from the list shown in Figure 4. For a very large proportion of them (81.1%) "accessing new knowledge and ideas" was a motivating factor for collaborations. This was followed by "access a qualified workforce" and "access cutting-edge equipment and/or innovative techniques".

Those who chose the "other" category (n = 38) were given the opportunity to write their motivation. Here are some of the responses received:

"A more scientific expertise to support our more applied projects."

"Ability to acquire IP at a fair price."

Figure 4. Answers to the question "In your opinion, what factors would encourage your organisation to collaborate with universities?" (n = 513)



4 What are the obstacles to successful collaboration with universities?



Main obstacles

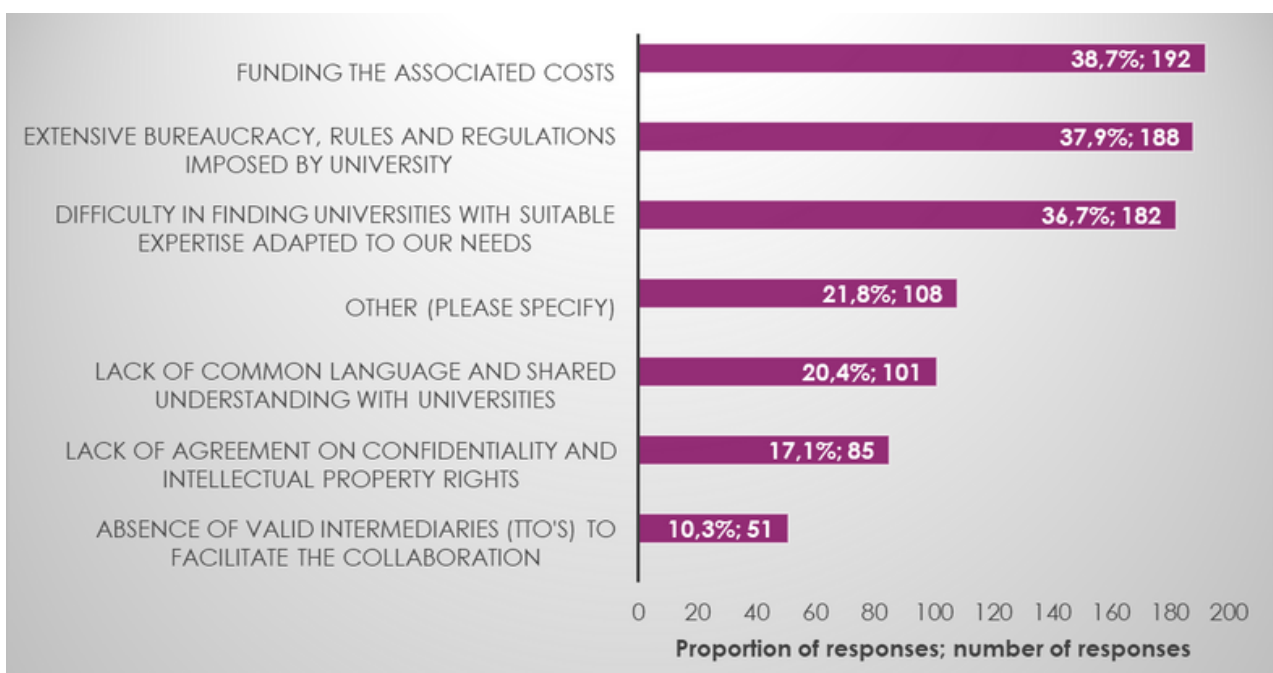
We asked the participants in our survey to indicate the obstacles to successful collaboration with universities. The items on this scale were adapted from existing studies on challenges of university-industry collaborations (Bruneel, D'Este, & Salter, 2010; Tartari, Salter, & D'Este, 2012). For this question, employers had the possibility to choose multiple items. An important proportion stated that "funding the associated costs" was an obstacle to successful collaboration. Other obstacles included "extensive bureaucracy, rules and regulations imposed by university" and "difficulty in finding universities with suitable expertise".

"The mapping of skills in academic research is not always very clear – we do not know the competencies of each university sufficiently."

"Complexity of SPW files (heaviness and administrative burden)."

"Unacceptable expectations from the Technology Transfer Office."

Figure 5. Answers to the question "In your opinion, what are the obstacles to successful collaboration with universities?" (n = 496)





What are the "other" obstacles?

Among those who chose the "other" category (n = 108), the most frequently cited reason related to differences in the sense of urgency, responsiveness, and timing between university and non-academic organisations (n = 24).

*"Universities
may not always understand the need for speed for research in
companies."*

*"Universities take a lot of time to accomplish tasks (specific to
fundamental research), which is in conflict with our economic
reality."*

Other reasons were a combination of lack of information, lack of common objectives between universities and non-academic sectors and the costs associated with collaborations. One person listed two main reasons:

"1. There is a lack of a public directory, shared among different universities and regularly updated, that showcases the fields, competencies, and ongoing research of professors and researchers. Currently, relying on word-of-mouth is still the norm when seeking to contract services, such as a study, for example.

2. The financial contribution demanded by universities solely for administrative purposes is discouraging or considered too expensive, leading people to prefer turning to private firms instead."

5 Conclusions



Collaborations between academic and non-academic sectors in the WBF are widespread. A large majority (85.2%) of the participants in our sample reported that their organisation collaborates or has collaborated with a university. Moreover, these respondents expressed a high level of satisfaction with their collaborative experiences.

The main motivation for engaging in collaborations stems from the desire to access new knowledge and ideas generated by university researchers. Another important factor is the opportunity to benefit from a qualified workforce.

However, our survey results highlight a number of obstacles that hinder successful collaborations between non-academic organisations and universities. One significant barrier identified by respondents is the funding costs associated with such collaborations. There are several regional initiatives (e.g., the Walloon Region's Win2Wal programme) that subsidise collaborative research projects between academic and non-academic sectors. In addition, the LiEU network, which brings together the knowledge transfer offices of the universities of the WBF, offers a number of services to businesses and brings together scientists and private and public partners to stimulate collaborations. Considering providing more support for these initiatives could help reduce this financial concern and encourage more organisations to engage in collaborations with academia.

Another notable barrier is the heavy bureaucracy, rules, and regulations imposed by universities, which are perceived as time-consuming. From the point of view of participants, simplifying procedures within universities and funding agencies could alleviate this concern and prevent organisations from being deterred from engaging in collaborative activities.

Additionally, many participants said that they faced difficulties in identifying universities with the relevant expertise that aligns with their specific needs. Rather than a question of skills scarcity in Belgium, it seems that some people lack knowledge of where and how to access the necessary information. To remedy this, some respondents suggested the creation of a skills directory that would provide assistance in identifying and contacting appropriate experts in universities. Considering these suggestions could help facilitate collaborations between academic and non-academic sectors.

6 References



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