

Section B

HIGHER EDUCATION-INDUSTRY PARTNERSHIPS

INVESTIGATING PARTNERSHIPS

The term ‘partnerships’ and the implementation of partnerships are understood and mediated differently in different contexts and by different stakeholders (Kruss 2002). The industry survey aimed to develop an understanding of industry respondents’ perceptions of their relationships with HE partners in a project by determining their definitions of the terms ‘partnership’, ‘collaborative relationship’ and ‘professional relationship’.⁶

4.1 INDUSTRY’S PERSPECTIVE OF THE NATURE OF THE RELATIONSHIP

The majority of the respondents (84%), viewed the relationship as either a ‘partnership’ (37%) or a ‘collaborative relationship’ (47%), as opposed to a ‘professional relationship’ (6%) (Fig 4). This indicates that industry by and large views its relationships with HEIs, as incentivised through THRIP and Innovation Fund projects, as more than a ‘business arrangement’ between two or more parties, but as a relationship in which there is commitment to a common set of goals and overall objectives.

4.1.1 Industry respondents’ definition of ‘collaboration’

Forty-seven per cent (Fig 4) of the total respondents defined their relationship with higher education as ‘collaborative’ and respondents showed remarkable consistency in their understanding of the term to mean a relationship based on clearly and mutually defined needs and benefits. The quotations below, extracted from the survey to industry respondents, illustrates this understanding:

‘[A collaborative relationship is where] both parties must have clearly defined needs which are symbiotic.’

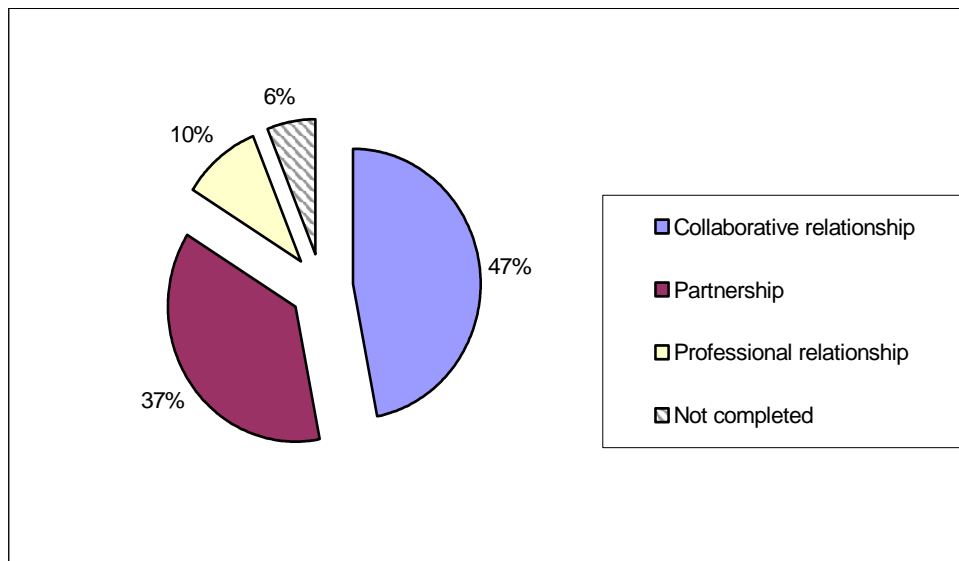
‘We treat the project as a venture from which both parties derive benefits.’

⁶ This section presents the findings from the industry survey. For further details on the industry survey refer to the methodology chapter and Appendix D. Due to the low returns from industry partners involved in Innovation Fund projects (see Chapter 2), the findings presented in this chapter are not disaggregated according to THRIP and the Innovation Fund. It is important to note that the distribution as presented in this chapter was tested against the THRIP and Innovation Fund returns and in all cases the distribution of responses remained constant. It appears, from this, that industry’s overall perspective of partnerships does not vary much across the programmes.

‘Our enterprise and higher education institutions both contribute in a complementary manner to their mutual benefit. The enterprise profits by ultimately selling its enhanced products/services ... and higher education institutions profit through funding and improved infrastructure and expertise.’

‘There is a joint willingness to do research and development that could be innovative for the industry. Both parties benefit: both with regards to research and development and financially.’

Figure 4: Industry recipients perspectives of the nature of the relationship between higher education and industry



One of the respondents explained mutual benefit in the context of their enterprise’s partnerships as follows: ‘Higher education institutions want to have a strong post-graduate programme. Our institution continually has projects from which research projects flow. We collaborate on choice of projects and the direction of research.’ This is a striking example of how collaboration can ensure that the gap between the worlds of education and work can be bridged in the pursuit of mutually defined goals.

Other respondents focused more specifically on the ethics that they believe should underpin collaborative relationships, such as trust and openness. One respondent stated, ‘we have a good interpersonal and professional relationship, and this matters’.

Some respondents focused on the nature of the working relationship, expressing that collaborative relationships should involve equal contributions by both parties and that team members should work in a complementary manner. One respondent stated, ‘our organisation is involved in all the research along with the higher education institutions. We do not simply stand back and watch, we work together with [the] university and solve the problems. We also assist in all the physical work and setting up’. Another respondent described a similar working relationship where ‘both parties contribute to the project. Our microbiologists provide data towards novel research by higher

education institutions, technical literature is shared and outcomes are mutually agreed upon’.

While these relationships are based on a very close sharing of work and responsibilities, other projects prefer to split the responsibilities, within an overall framework of collaboration. In some projects, the HE institution is responsible for the research, while the industry partner is responsible for product testing procedures. In others, the HE institution takes responsibility for the research aspect of the project, while the industry partner focuses on raising funds from donors and sponsors and creating public awareness of the project aims and outputs.

It is clear that industry partners’ overall perception of THRIP and Innovation Fund relationships converges on the notion of mutual benefit within the context of mutual collaboration and mutual trust. The following quotation sums up this position:

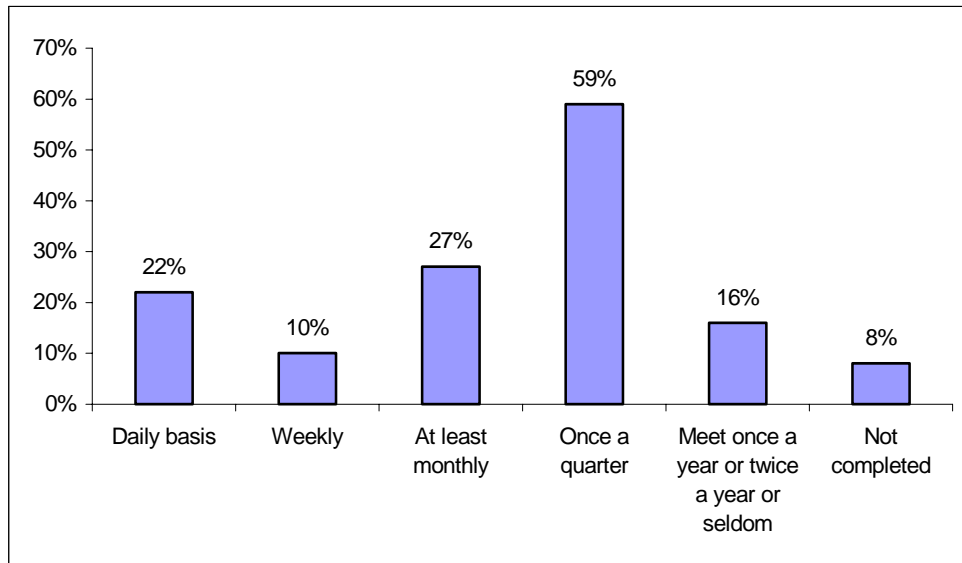
[THRIP/Innovation Fund incentivised relationships are] win-win relationships where all parties strive for defined success with full information disclosure and mutual sharing. [The relationship should be underpinned by] trust and clear understanding of who does what and to benefit whom.

It is interesting to note that at least 14% of the respondents that defined their relationships on THRIP and Innovation Fund projects as ‘collaborative’, used the terms ‘partnership’ or ‘partner’ in their descriptions of the relationships.

4.1.2 Industry respondents’ definition of ‘partnerships’

Thirty-seven per cent of the total respondents defined the relationship between their enterprise and HEIs/SETIs as being a ‘partnership’, where a ‘partnership’ was perceived as either a more formal-contractual relationship, or as a relationship explained in the notion of ‘collaboration’ outlined above. For industry respondents who defined ‘partnership’ as a formal or contractual relationship, the difference between ‘collaborative relationships’ and ‘partnerships’ is dependent on the degree of contractual formality governing a collaborative relationship. One respondent referred to their project as a partnership in which ‘a formal agreement exists between the university and industry. Interactions involve staff, students and projects being shared in a mutual relationship of trust’. Another respondent viewed the project as a partnership in which ‘a joint company has been formed’ to administer the project. Thus, even respondents who defined ‘partnership’ as a formal agreement between partners tended to imbue their notion of ‘partnerships’ in terms of collaboration as outlined above.

Figure 5: Frequency of meetings between industry and higher education



4.2 INDICATORS OF PARTNERSHIP AND COLLABORATIVE RELATIONSHIP

4.2.1 Frequency of meetings

Industry and HE partners meet on a relatively frequent basis. Eighty-three per cent of project partners that responded to the survey indicate that they meet with project partners at least once a quarter. A total of 41% of the respondents indicated that they meet with the project partners at least once a month, with 15% meeting on a daily basis, 7% on a weekly basis and 19% at least once a month. 42% reported that they meet with partners at least once a quarter and only 11% meet less than once or twice a year or less frequently (Fig 5).

Of those who defined their relationship as 'collaborative' in nature, 50% reportedly meet once a month or more, compared with 36% of those who defined the relationship as a 'professional relationship' and 25% of those who defined the relationship as a 'partnership'. This relatively high frequency of meeting in 'collaborative' relationships supports the respondents' definition of collaboration, wherein mutual participation and mutual benefit are highlighted as priorities. Respondents who defined the relationship as a 'partnership' or 'professional relationship' generally meet less frequently (less than once a month or more) than those who defined the relationship as 'collaborative' (Fig 5a, 5b and 5c).

These findings support the notion that collaboration, as opposed to contractual partnering and professional relationships, requires a closer working relationship between the parties involved and an increased investment in terms of time and human resources.

Figure 5a: Collaborative relationship

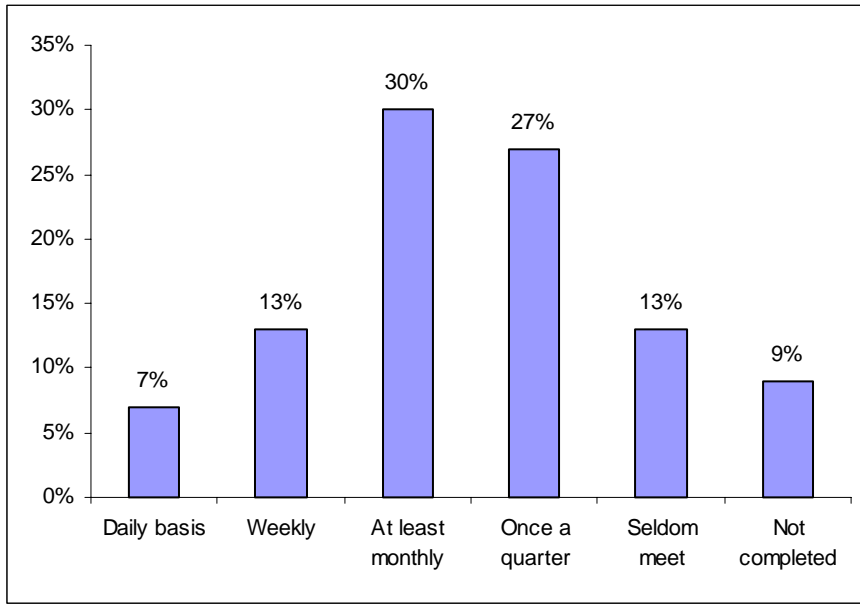


Figure 5b: Partnership

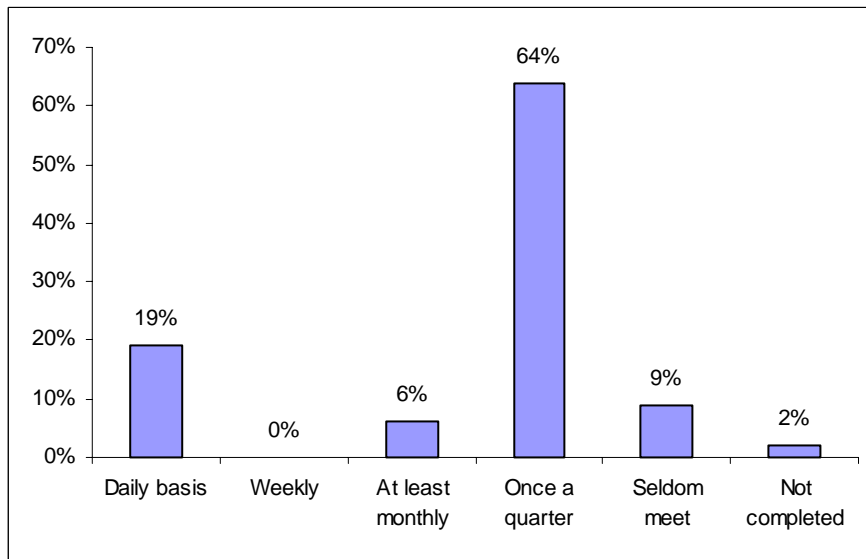
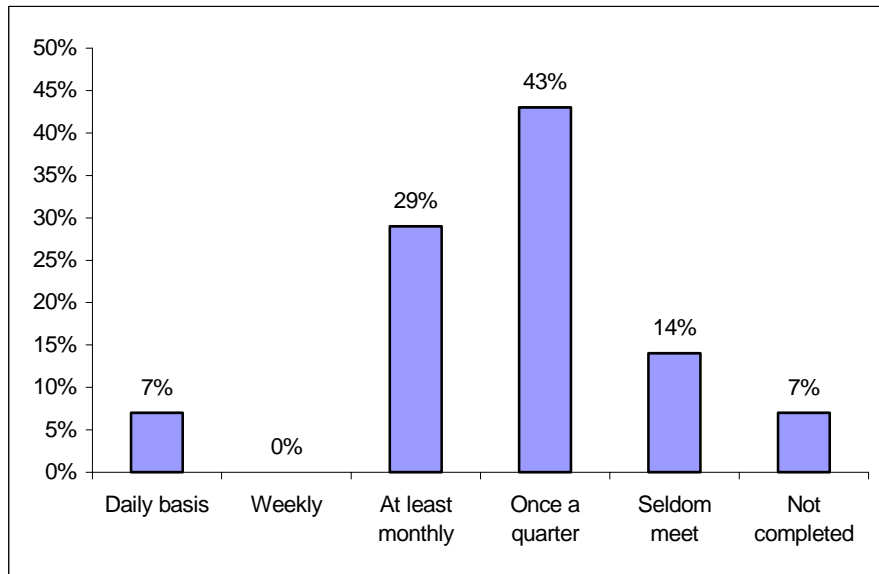


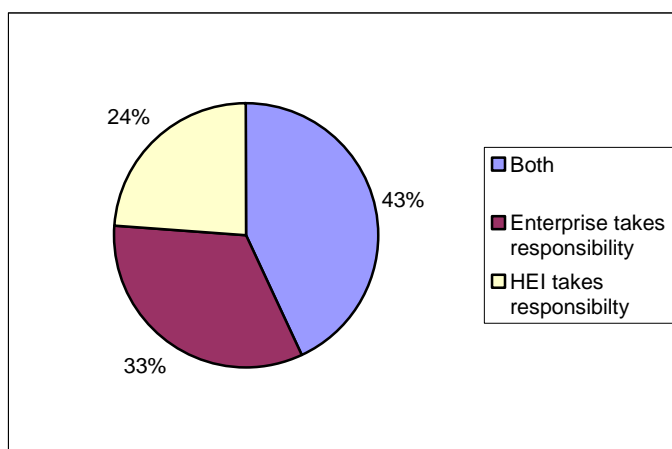
Figure 5c: Professional relationship



4.2.2 Nature of communication

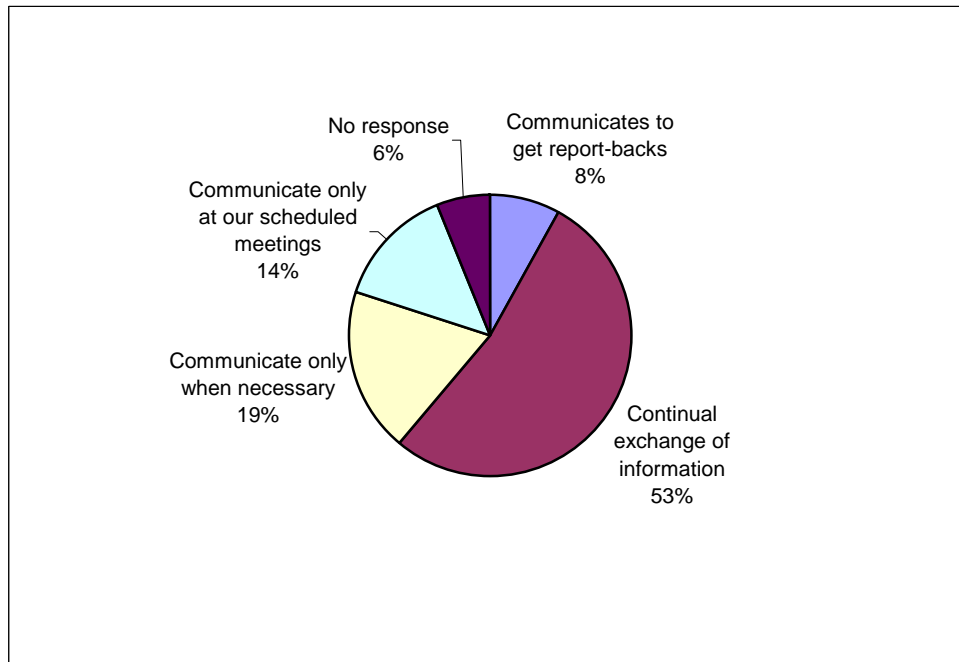
Figure 6 indicates that 43% of the respondents indicated that both HE institutions and industry partners share the responsibility for communication within the project team. A further 33% of the respondents reported that industry takes the overall responsibility for communication. These results are notable, as industry is regularly viewed as taking the 'hands-off' approach of contributing funds but not actively participating in the relationship beyond that scope. These findings suggest a very different scenario, where industry, in fact, takes even more responsibility for communication overall than the HE institution (or grant holder in the case of THRIP projects), and that buy-in into the project is well established for the industrial partners.

Figure 6: Nature of the communication – who takes responsibility?



An analysis of the direct form of communication (Fig 7) indicates that 53% of the respondents report a continual exchange of information between the industry partner and HE institution. This, too, serves to confirm the extent of industry involvement in THRIP and Innovation Fund projects as being 'hands-on' and collaborative. 19% of the respondents indicated that they communicated only when necessary. 14% indicated that they communicate through scheduled meetings and only 8% reported that their enterprise only communicates with HE institution to get report-backs.

Figure 7: Form and nature of the communication



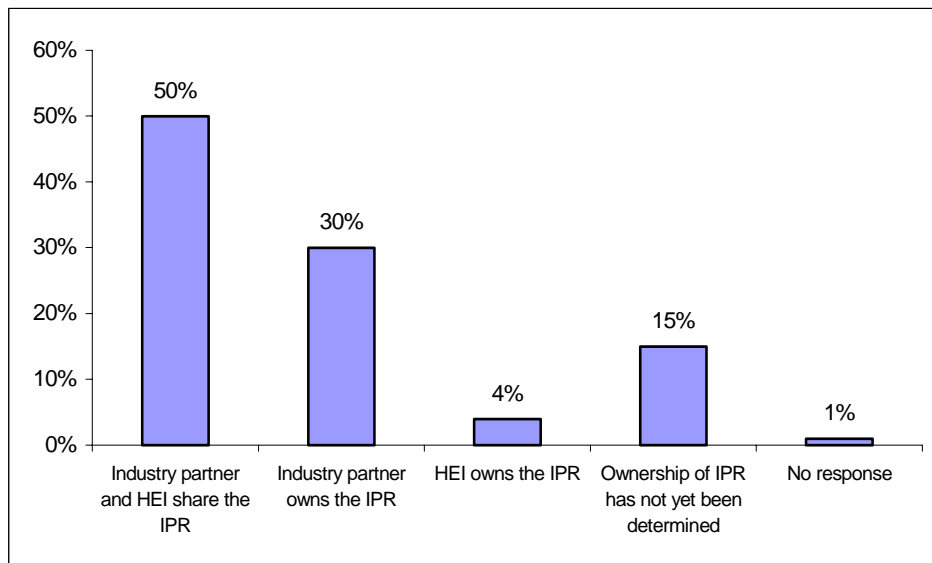
Overall, the nature of communication between HEIs and industry partners supports the view that the relationships are based on mutual participation and input, and that there is a strong argument to be made for viewing the relationships as genuine efforts to bridge the gaps between the worlds of academia and industry, and the worlds of education and work.

4.2.3 Ownership of intellectual property

The findings on the ownership of intellectual property have been analysed from the industry questionnaires. Industry was asked to indicate, from their perspective and experience, the nature of the intellectual property ownership.

Figure 8 outlines which of the partners in THRIP and Innovation Fund projects own the intellectual property generated in the course of the relationship. As the figure illustrates, 50% of the HEIs and industry partners share the Intellectual Property Rights (IPRs), while 30% of the projects allocate the IPRs to industry alone and 4% to the HE institution alone. In 15% of the cases, partners had not resolved IPR ownership and 1% did not respond to this question.

Figure 8: Who owns the IPR?



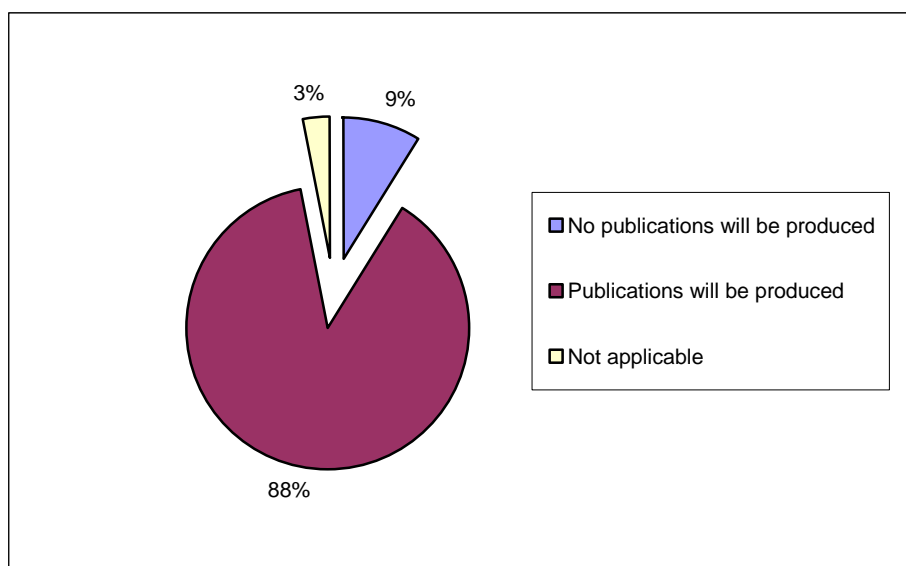
The ownership of Intellectual Property Rights is a critical indicator of the extent to which projects are mutually collaborative and mutually beneficial (Powell 1999). The issue of IPRs is pertinent to higher education institutions, as IPR arrangements may heavily impact on HE institutions' traditional role of producing new knowledge and basic research (Walshok 1995). Blumenthal (1986), in a study on university-industry research relationships, argues that one of the risks to universities in the context of HE-industry partnerships is a tendency towards increased secrecy due to industry placing increasing restrictions on publications. By the same token, however, industry may be reluctant to share IPRs, so as to maintain the competitive advantage within their sub-sectors and to exploit the outcomes of research projects for profitable gain. This may account for why as much as 30% of all IPRs are vested with industry partners alone. Ping (1980), however, argues that despite the risks to universities, there is a considerable body of scholarly work that suggests that the interaction between scientists doing applied research may enhance the work of both universities (including the traditional role of basic research) and the work of industry.

THRIP does not prescribe how IPRs are to be distributed, but does require that the parties agree upon the distribution of these rights before commencement of any project. THRIP also requires that such an agreement should not restrict the publication of research results for more than two years after the completion date of the project. The Innovation Fund, however, requires that intellectual property be vested with the consortium of the partners and reserves the right to claim ownership of intellectual property if, after five years, the funder is able to determine that no attempt has been made to exploit the results of the project.

4.2.4 Publications

Figure 9 indicates that the vast majority of respondents (88%) report that publications have been or will be generated as a result of THRIP/Innovation Fund projects. Only 9% report that publications will not be produced and in 3% of the cases, the respondents indicated that the question was not relevant to their project.

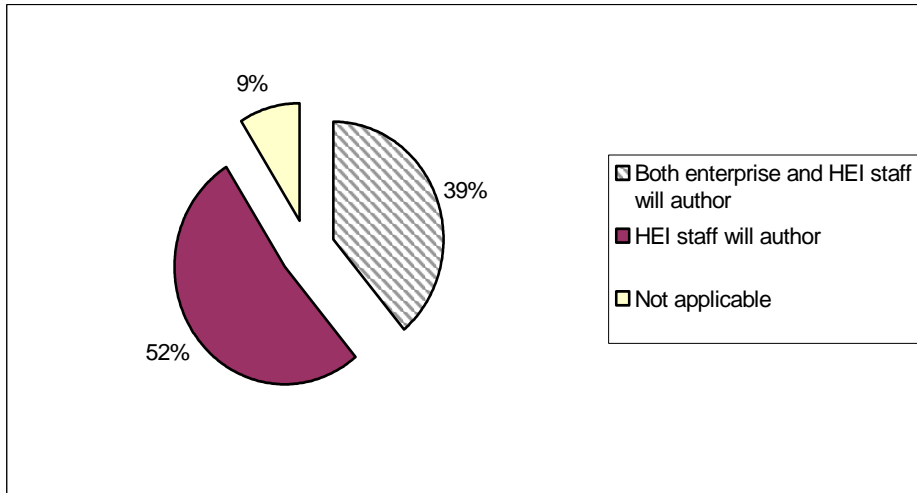
Figure 9: Are publications going to be or have they been produced from the research work?



It is important to note that high publication levels are an important consideration for maintaining and upholding scientific rigour, as well as prompting and generating new research outputs in related areas. This is especially critical for HE institutions, where the numbers of publication outputs are monitored as indicators of academic performance and institutional success.

Figure 10 illustrates that 91% of the completed and envisaged publications involved, or will involve HE institution staff as authors (52% as single authors and 39% as co-authors with industry partners). These findings support strongly the argument presented by Ping (1980), in suggesting that involvement in HE institution-industry partnerships will contribute to, rather than deflect from, the traditional HE role of producing and publishing research.

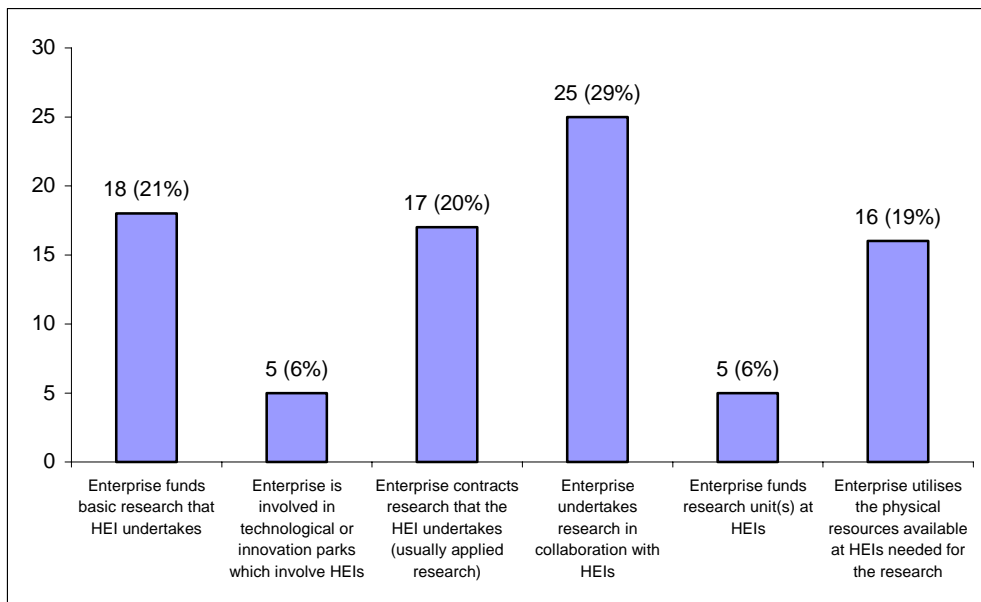
Figure 10: Who are the authors of the publications?



4.3 INDUSTRY'S PERCEPTION OF THE NATURE OF THE PARTNERSHIPS

Figure 11 indicates that almost a third of the respondents felt that they undertake the research in collaboration with HE institutions, rather than the research being outsourced or contracted to HE institutions.

Figure 11: Nature of partnership – from industry's perspective



In 21% of the cases, the enterprise funds basic research that is undertaken by the HE institution. This is interesting, as there is much literature that argues that industry is primarily involved in funded research that can be directly applied in an industrial

context. In support of this view, 20% of the respondents indicated that much of the research is contracted to HE institutions and is applied research.

Nineteen per cent report that they rely on using the physical resources available at HE institutions for research purposes. This highlights the role of HE institutions in contributing expertise, research resources and facilities that would be too expensive and cumbersome for industry to replicate. In a few instances (6%), the partnerships are such that industry funds HE institution-based research units or is involved with the development of Innovation Parks or Technology Parks in collaboration with HE institutions.

4.4 CONCLUSION

The results indicate, overall, that industry understood 'collaborative relationships' to mean relationships based on mutual participation and mutual benefit, and understood the term 'partnerships' to represent more formal, contractually-based relationships. It must be noted, however, that the definitions of 'collaborative relationships' and 'partnerships' did overlap and that mutual benefit and collaboration were considered characteristics of both.

The findings outlined in this section suggest that the HE-industry relationships reviewed here are largely founded on the principles of mutual co-operation, mutual participation, mutual benefit and trust. Moreover, the notion that industry partners limit their interaction to supervising the application of their funding contributions is largely refuted. A review of the nature of the relationships between partners indicates that industry is playing a hands-on, fully participatory role in THRIP/Innovation Fund-incentivised projects. It is clear from industry's perspective that they are investing time and resources in the relationships, and in some instances, even driving the relationships in terms of communication and collaboration.

It is also clear that HE institutions are benefiting in terms of the IPRs and publications that are generated from research outputs, in contestation with the literature that reviews the negative impact of HE-industry partnerships on HE institutions (Powell 2002).

Although these findings represent industry's perspective, and are not complemented by a similar investigation of HE institutions' perspectives, this analysis provides the basis for re-assessing concerns that HE-industry partnerships may impact negatively on the traditional role of HE. They suggest that the partnerships have resulted in tangible benefits and advantages being gained on both sides.

This does not attempt to suggest that all HE-industry partnerships are inherently beneficial, but rather that THRIP and Innovation Fund partnerships do appear to have rested on a formula where mutual benefit is obtainable and which could represent exemplars of how HE-industry partnerships could better be structured and managed to ensure that the gains are mutually equitable.