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Knowledge exchange policy needs to support the diversity of relationships between academia and business

Universities are one of the main generators of knowledge in our society. How that knowledge is disseminated and applied affects our competitiveness. However, current policy agenda tends to focus on the transfer of technology. This focus ignores many of the varied ways by which universities and businesses together influence innovation and business performance. It also ignores some of the greatest challenges concerned with absorbing and embedding knowledge within businesses.

This research looks in detail at the process of exchanging and co-developing knowledge between universities and businesses in the United Kingdom. It makes suggestions about the procedures that will ensure that interactions will be most productive.

Key Findings

Technology transfer is only one aspect of the knowledge exchange process

- Knowledge exchange is concerned with processes of product and service production and delivery and with organisational change. It is less concerned with new product development.
- Many projects develop from a business identifying a challenge rather than specifying a narrow technical issue.
- The highest financial impacts arise from a re-engineering of the production process rather than from the sales of new products. Even when research is ‘applied’, prototypes often need re-engineering for use in different product areas.
- Companies may not need assistance from university researchers in the development of their technology; they may benefit from marketing and management science in the development of business processes.

Innovation is a function of skills, management aspiration and business repositioning as well as knowledge exchange

- Knowledge can be exchanged in different ways, from student placements and projects to formal research collaborations.
- The ways in which organisations may benefit depends on the stage of an organisation’s evolution, the nature of the business and the awareness of the products and services that a university might offer.

- A vital role is played by independent and university gatekeepers, positioned at the interface of business and academia. They identify and develop opportunities for knowledge exchange by explaining the issues, identifying researchers and translating the results.

Knowledge exchange works better when based on personal relationships rather than transactions

- Relationships are often built up through common networks, where the project to be addressed has evolved rather than being specified up-front.
- Businesses value the expertise of academics and their ability to take a wider view. This is particularly true of larger companies and longer term relationships.

Businesses want access to the possessor of tacit knowledge

- There is sometimes a tension between intellectual property intermediaries in universities and businesses over whether value is most likely to be created by the business commercialising the knowledge (and writing the patent) or the university.

Resources and internal structures are important for embedding knowledge flows from universities into business.

- Specific processes may be designed to embed knowledge in an organisation. Staff may also learn through working in partnership with a university.
- Some businesses see embedding knowledge an investment in capacity building. Others see it merely as an additional cost.

Implications

There is a need to broaden the knowledge exchange policy agenda

Policies developed to encourage universities to work with businesses should:

- Reflect the wide range of interactions and the ways in which they are formulated, implemented and assessed.
- Consider how businesses can be encouraged to embed the knowledge they have gained.
- Stress the relational rather than the transactional aspects of collaborations.
- Encourage the development of public activities in universities to help foster relationships.
- Emphasise the importance of improving university-business relationships through better aligning the roles of the various 'boundary-spanners' inside universities.

Methodology

This report is based on research carried out by the Centre for Business Research (CBR) at the University of Cambridge in collaboration with the Council for Industry and Higher Education (CIHE). It sets out the findings of a case-based study of knowledge exchange processes involving more than thirty UK companies and UK universities. It provides a qualitative examination of university-business interactions that goes beyond an analysis of patterns and

structures of knowledge exchange to uncover the processes by which modes of exchange emerge, develop and are assessed. It presents business views on the nature of the research value chain and the roles they see universities play in that process. The cases cover a wide range of firm sizes and sectors including firms in the services sector.

Further Information

The study was carried out by Michael Kitson, Professor Alan Hughes, Maria Abreu and Vadim Grinevich at Judge Business School and Centre for Business Research, University of Cambridge; and Philip Ternouth at the Council for Industry and Higher Education.

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