

Research Brief

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UK and Chinese High-Tech Firms: International Collaboration on Innovation

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*“The emergence of China as a global economic and political force is one of the most significant developments of our time. We must work together if we are to deal with the major challenges we face....The UK has a lot to offer China But China has much to offer Britain too Over the next four years and beyond, strong relations with China can help create a better Britain, a better China and a better world.” - The Rt. Hon Gordon Brown MP, The Prime Minister, in *The UK and China: A Framework for Engagement* 2009*

China has been put in the spotlight in the global innovation system, and the complementary innovative capability between the UK and China has been a recurring theme in keynote speeches. The UK has strengths as a location for Research and Development (R&D) and scientific discovery, but its main challenge is *how to exploit innovative ideas* and develop new products. In contrast, Chinese firms are known as better at adapting the ideas of others and building on these ideas at home.

This project aims to compare and contrast organisational factors that influence UK and Chinese high-tech firms' entrepreneurial and innovative capabilities of not only discovering new ideas and technology but also turning new ideas and technology into successful new products and services. The findings help understand what UK and Chinese high-tech firms can learn from each other and what opportunities lie for bilateral collaboration in innovation and new product development.

This Research Brief focuses on international collaboration on innovation, and is the first one of our Research Brief series disseminating our research findings.



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Management Teams

The rising young generation in China dominates senior and middle management in Chinese privately-owned high-tech firms. About 85% of senior and middle managers in Chinese companies surveyed are under 40 years old, compared with 19% in UK companies. On average, Chinese

International Collaboration

Many UK companies (63%) and Chinese companies (60%) surveyed have collaborated on innovation projects with international partners in the past three years. UK companies' international partners are mainly from USA (42%), India (24%), European (excl. UK) (37%) and

About This Project

The findings draw on the research project titled "Entrepreneurial Capacity to Exploit Opportunities, New Product Development and Firm Performance: A Comparative Study of UK and Chinese High-Tech Firms". The project is funded by the Economic and Social Research Council (ESRC) (Grant Number: RES-061-23-0023).

	UK firms' perception of collaboration with Chinese firms	Chinese firms' perception of collaboration with UK firms
Own contribution (Ranked top 3)	1. Marketing 2. R&D 3. Sales	1. R&D 2. Technology 3. Manufacturing
Partners' contribution (Ranked top 3)	1. Manufacturing 2. Distribution 3. Sales	1. R&D 2. Sales 3. Marketing

ESRC is the UK's leading agency for research funding and training in economic and social sciences. It has an international reputation both for providing high-quality research on issues of importance to business, the public sector and government, and for its commitment to training world-class social scientists. ESRC funded research helps to shape and define society's sense of itself, create new social knowledge, and inform policy and executive decisions in government, business and the third sector.

managers have been working for about five years in their current company and ten years in the same industry. In contrast, UK managers have longer tenures: nine years in the company and 17 years in the industry. Male domination (over 90%) in senior and middle management teams is common in UK and Chinese companies.

China (19%). The top partner choices for Chinese firms are: USA (35%), European (excl. UK) (21%), Japan (11%); only 19 out of 252 Chinese firms have recently collaborated with UK firms. Moreover, there is discrepancy between UK and Chinese firms' perceptions of bilateral collaboration on innovation projects (see the above table).



Photo: Production line of a medical equipment company in Beijing in July 2009

About The Project Team:

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One explanation of the above discrepancy is that the term R&D has different connotations in Chinese firms, as it can be referred to various types of investment, including investment in a new building.

Interestingly, although many Chinese firms have collaborated or are actively seeking collaboration on innovation projects with foreign companies, most of them are very passive,

R&D investment is so loosely defined in Chinese firms, referring to anything remotely related to research & development, such as investment in a new building.

Barriers to International Collaboration

Many reasons have been put forward by UK companies for showing lack of interest in finding an international partner. These include:

- Don't see any benefit from collaboration.
- Happy with the current partner.
- In-house growth.
- Innovation is driven internally in this very UK centric organisation.
- Our market is purely domestic.
- Strong intellectual property needs to be protected.
- The UK market is big enough.
- We can source partners in the UK.
- No ability to predict the future.

expecting foreign companies to approach them. Many Chinese firms don't know how to go about finding an international partner, and in particular know very little about UK firms.

Future collaboration

Compared with UK firms, Chinese firms without recent experience of international collaboration are much more eager to find an international partner and 78% aim to establish an international partnership in the next three years. The top four areas of expertise that UK firms are seeking from their future international partners include:

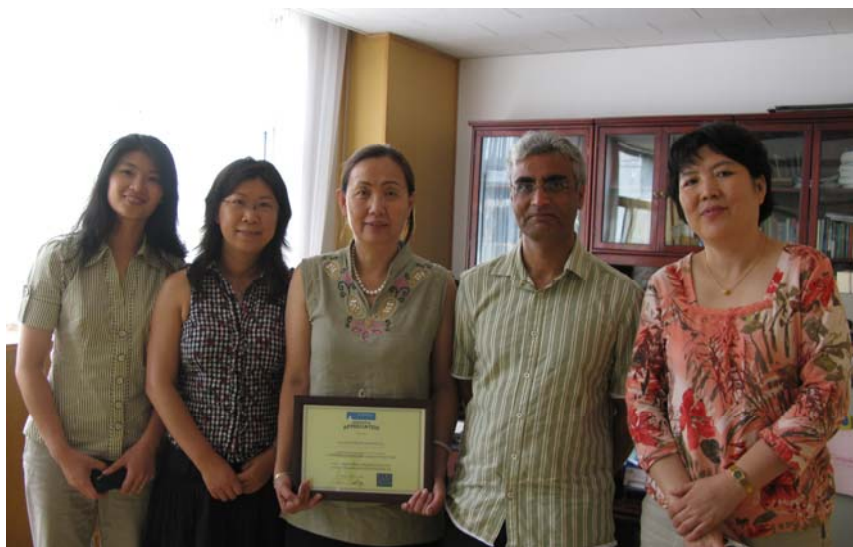


Photo: The research team visiting Beijing Hepo Biology Medical-Tech Corporation Ltd in July 2009

- R&D
- Technology and component
- Distribution
- Manufacturing

The top four areas of expertise that Chinese firms are seeking from their potential collaborators include:

- R&D
- Sales
- Technology and component
- Marketing

perceptions, expectations, ways of doing things and business models, etc. between UK and China. There is tremendous potential to leverage resources beyond government support and involve multiple stakeholders to work together, including intermediary organisations and knowledge-brokers.

METHODS

We conducted questionnaire surveys with 252 Chinese high-

About Royal Holloway

One of the four largest multi-faculty colleges in the University of London, Royal Holloway has a distinguished history and reputation for academic innovation. The School of Management brings together talented students with academic staff who are working at the frontiers of their subjects. Research at the School has a shared feature of international and comparative focus, and aims to apply the insights of social science to the management of private, public and voluntary sector organisations.

“UK businesses are not prepared for international collaboration. Many businesses don’t realise the importance of collaboration and lack the resources to pursue it .”– NESTA (2007) Policy Briefing: Innovation Goes Global

Policy and Practical Implications

There is an increasing level of general awareness of the importance of engaging with China in the development and growth of the UK economy. However, the challenge remains for UK companies to identify and reach out to compatible business partners in China. A more focused and hands-on approach to business support is needed to bridge the gap in

tech companies (located in Beijing, Shanghai and Shenzhen) and 150 UK high-tech companies, primarily operating in life sciences (incl. biotech, pharmaceutical and medical devices) and information and communication technologies (incl. computer hardware, software, data storage and processing, and telecommunication). Additionally, we conducted detailed case studies of 12 Chinese pharmaceutical and medical devices companies.

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