

# Research Brief

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## UK and Chinese High-Tech Firms: Organisational Ambidexterity

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*“Innovation will be one of the keys to accelerating the recovery and putting countries back on a path to sustainable – and – smarter – growth... The global economy is undergoing a series of transformations, with profound effects on the way innovation occurs.” - OECD Innovation Strategy 2009 Interim Report*

The economic crisis has transformed the global dynamics of innovation. Facing the challenge of tightened R&D expenditure, many UK companies increasingly innovate differently, that is, shifting the balance from new knowledge creation (i.e. exploration) to wider applications of knowledge (i.e. exploitation). Managers explore new ways of tapping into intangible organisational assets, such as human capital, design, marketing, and new organisational forms. Many of these are crucial for reaping commercial benefits from new knowledge and technology.

Adding to this challenge for the UK companies is the increasing investment in R&D and enhanced innovative capabilities of companies in some emerging economies, such as China. UK companies need to re-think their corporate innovation strategies to innovate in a smarter way.

**This Research Brief focuses on organisational ambidexterity – an organisational form that facilitates both exploration and exploitation simultaneously, drawing on evidence from UK and Chinese high-tech firms studied in the ESRC project.**



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The project aims to compare and contrast the national and 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 to understand what UK and Chinese high-tech firms can learn from each other and what opportunities lie in bilateral collaboration in innovation and new product development.

### **Organisational Ambidexterity**

Innovation is not just about investment in R&D to develop new technology or products (i.e. exploring new possibilities), but also the introduction of significantly improved products, services, processes, or methods (i.e. exploiting existing technology and capabilities).

***‘Organisational ambidexterity’ is a metaphor to refer to a firm’s ability to simultaneously engage in exploration and exploitation.***

Business leaders have realised that in competitive market environments, companies are often left with no choice but to consolidate existing businesses while simultaneously finding new opportunities. The economic crisis has forced many R&D driven companies to pay due diligence to wider applications of new knowledge and technology to harvest commercial benefits. Ambidexterity is crucial to short-term organisational performance, particularly during the current challenging times, as well as long-term success.

The challenge lies in how business leaders facilitate organisational ambidexterity.

One approach is to conduct exploratory and exploitative activities within different business units of the company. However, this approach is associated with higher

coordination costs between the business units.

### **Harmonic Ambidexterity**

Increasingly, the spotlight is on companies that can facilitate exploration and exploitation simultaneously within the same business unit – this is called ‘*harmonic ambidexterity*’.

Exploration is better nurtured in a *flexible, informal organisational structure*. In contrast, exploitation requires a *formal structure* to configure and deploy resources to achieve efficiency. This

### **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).

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.

### **Key Findings of the 2008 OECD Reviews of Innovation Policy: China**

- ❑ China’s gross expenditure on R&D was the third largest worldwide in 2006, after the United States and Japan. Its R&D intensity has increased spectacularly - up from 0.6% in 1995 to 1.43% in 2006.
- ❑ However, China’s spending on R&D remains heavily focused on experimental development; only 5.2% of all R&D in 2006 was aimed at basic research, compared to 10-20% in OECD countries.
- ❑ Although rising rapidly, only 11% of patents by Chinese firms in 2006 were considered inventive (invention patents), compared with 74% of patents by foreign firms patenting in China.
- ❑ Chinese high-tech industries continue to have much lower R&D intensity than their counterparts in most advanced OECD countries.
- ❑ In 2006, high R&D intensity remained heavily concentrated in some regions, notably Beijing, Shanghai, Shaanxi, and Sichuan.

**About The Project Team:**

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suggests that companies will have to adopt the so-called ‘semistructure’ to enable harmonic ambidexterity.

Semistructure facilitates a ‘loose-tight relationship’ in the company. Hence, it helps to achieve an organisational balance - allowing creativity and diversity to come forward, and instilling a common vision and direction. A common vision helps to direct the creative energy within the company towards organisational goals.

adapting ideas of others and turning them into new products.

However, our project findings indicate that in the high-tech sectors UK firms are better at exploration **and** exploitation (more ambidextrous) than their Chinese counterparts on the whole. Nevertheless, many Chinese firms (Category IV in the figure below) are catching up quickly. This suggests that UK firms need to re-evaluate their strengths in innovation, and

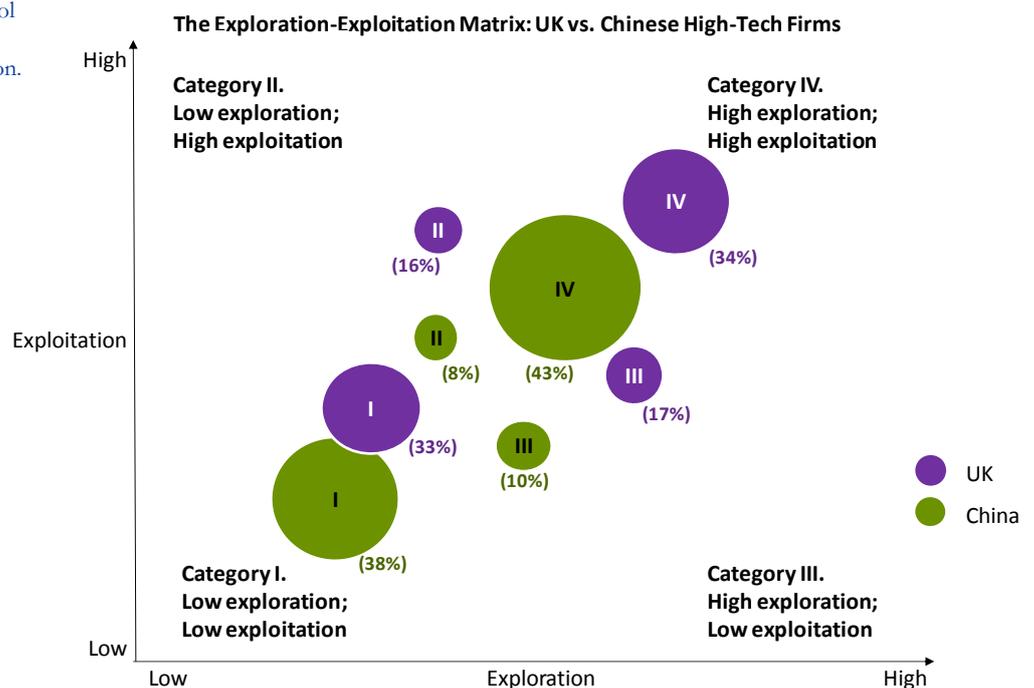
**Many Chinese high-tech companies are quickly building up their exploratory capabilities, showing strong a tendency of organisational ambidexterity.**

**Profiling Harmonic Ambidexterity in UK & Chinese High-Tech Firms**

The Lambert Review identified that the UK has strengths in scientific discovery, but its main challenge is how to apply new knowledge and exploit innovative ideas. In contrast, Chinese firms are known for being better at

their positions in the global innovation system.

Overall, harmonically ambidextrous UK and Chinese companies (in Category IV) demonstrate stronger R&D and marketing strengths as well as better innovation performance than their key competitors.



## Two Key Enablers of Harmonic Ambidexterity

Companies must instil a culture that simultaneously promotes diversity and a shared vision to enable organisational ambidexterity. Diversity favours the creativity process and helps to generate multiple solutions to a problem, but a shared vision brings different perspectives in line with organisational goals. Diversity and shared vision together support the semistructure required for harmonic ambidexterity.

***Companies must foster a culture that values diversity and promotes a shared vision in order to facilitate organisational ambidexterity.***

## Policy and Practical Implications

Several key messages for business leaders:

- It is imperative for companies to build ambidextrous organisations, focusing on the commercial viability in the short-term and creative ideas for the long-term innovation pipeline.
- Companies must encourage diverse perspectives and skills among employees, and instil a shared vision at the same time.

- Managers should recruit, train, and retain employees who can make their own judgements about spending their time on exploratory and exploitative activities.
- UK firms should tap into Chinese firms' enhanced innovative capabilities, rather than following the conventional model of collaboration. The synergy between Chinese firms' R&D capabilities and UK firms' marketing and design capabilities is likely to create competitive advantage in the world arena.

## Methods

We conducted questionnaire surveys with 242 Chinese private high-tech companies (located in Beijing, Shanghai and Shenzhen) and 150 UK high-tech companies, primarily operating in life sciences, information and communication technologies, and emerging technologies. Additionally, we conducted detailed case studies of 12 Chinese pharmaceutical and medical devices companies to provide fine-grained insights on how Chinese firms innovate.

## 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.

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