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China's Fast Growing Market for Technology

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UK companies are increasingly willing to transfer their technology as a way to exploit the Chinese market while Chinese enterprises are also eager to import foreign technology to improve their performance and gain access to world markets. They both want to establish effective partnerships but there may need to be more mutual understanding. Write David Bennett and Zhao Hongyu.

Technology has been recognized as an effective tool for improving the performance of Chinese enterprises and has been seen to play a central role in China's industrial development. Recently the import of foreign technology has been actively encouraged by the Chinese government and Chinese enterprises have been equally enthusiastic to acquire technology from abroad.

Although the amount of foreign technology being transferred into China has been growing there remains the question whether there is a mutual understanding between donors and recipients concerning their respective aims and objectives. What are the current perceptions of each side with regard to transferring technology to China? What are the gaps in the intentions between foreign companies and Chinese enterprises? Do their strategies match? In what areas do more efforts need to be made?

These overall questions have been addressed by two questionnaire surveys. One among UK companies on the situation concerning technology transfer to China followed by another among Chinese enterprises on their expectations concerning the transfer of technology from foreign countries.

The questionnaire surveys were conducted as part of a wider programme of research concerning technology transfer under China's economic policy reforms. They were carried out by the Aston Business School and altogether about 200 companies from a range of industrial sectors responded to each survey. The survey of UK companies was carried out with the assistance of CBTG and the main results of this survey were previously reported in the April 1995 issue of China Britain Trade Review. The subsequent survey of Chinese enterprises was conducted in collaboration with the People's University of China, the China Society for Research on Economic System Reform and the Chinese Ministry of Machinery Industry.

The results of the Chinese survey have confirmed the eagerness of Chinese enterprises to acquire foreign technology and reveals that they are motivated mainly by competitive pressures. Over 90 percent of the enterprises who responded indicated the reason for seeking foreign technology as being due to the increased pressures of competition and/or to improve their products' competitiveness in the domestic market. The majority of them expected to be supplied with advanced technology and the level of technology offered was cited as the overwhelming criteria for selecting a particular foreign partner or supplier. For example, in the machine tool sector the

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Chinese respondents considered that European companies were the preferred technology suppliers although Japanese companies offered much lower prices with well established technology. All the machine tool companies in the UK survey supplied advanced technology, as do most other European machine tool manufacturers.

Another motive for acquiring technology, which was cited by about 50 percent of Chinese enterprises, was to gain access to world markets through collaboration with foreign companies. Comparing this with the aim of most foreign companies of exploiting the Chinese domestic market it can be seen that the difference in intentions is likely to lead to difficulties in conducting negotiations on some collaborative ventures. It also raises questions about the strategic context of technology transfer as well as the forms of collaboration between foreign and Chinese enterprises.

With regard to their importance as factors influencing the capacity to absorb transferred technology, availability of capital was considered to be most important factor by the Chinese themselves while the UK companies thought that the main consideration was managerial know-how. The imbalance between sectors become evident in the Chinese survey in relation to the views of Chinese industry about its own technological capacity and this perception had also emerged from the UK survey. However, the overall assessment of their technological capacity was thought to be higher by Chinese enterprises which on average considered it to be between 'good' and 'moderately good'. By comparison their technological capacity was assessed by the UK companies to be between 'moderately good' and 'poor'. Areas where UK companies considered the technological capacity generally to be poor included the quality of currently used equipment, infrastructure support and managerial know how, although it should be recognized that there were large differences between sectors. It should be noted that it has often been the case that gaps between the assessment of technological capacity by the donor and recipient have led to difficulties in establishing the value of technology being transferred.

As far as accessing information on technology is concerned the majority of Chinese companies relied heavily on their professional associations, technical exhibitions, technological conferences and, to a lesser extent, contact with other companies who had technology transfer experience. This is in contrast to the UK companies who considered the most effective information sources were direct contact with, or visits to, China rather than secondary sources. Therefore it would be advisable for UK companies to understand how their Chinese counterparts obtain information on technology and ensure they target these sources effectively.

When asked about the possible obstacles to transferring technology there were also differences in responses between the UK and Chinese companies. The UK companies emphasized more the inefficiencies such as bureaucracy, time consuming negotiations, vague organizational authority, and unsatisfactory management. Chinese enterprises on the other hand cited difficulties and inadequacies such as differences in technological systems, insufficient information sources, and inadequate legal regulations.

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Although transferring technology to China is not without its difficulties the surveys clearly show that most Chinese and foreign companies have a positive attitude towards collaboration. If unexpected problems were encountered in the negotiation process about 90 percent in both surveys indicated they would try to find a mutually acceptable solution with their partner rather than withdrawing or modifying their plans or insisting on keeping to their original strategy.

In conclusion, the surveys shown that there is a strong motivation on the part of UK and Chinese companies to transfer technology but their respective motives need to be recognized during negotiations. This is especially the case when transfer is taking place as part of a collaborative venture. UK technology suppliers need to be aware of the differences in certain technological capacity factors that exist between industrial sectors and enterprises so that suitable allowances can be made and measures taken to ensure that the transfer of technology is carried out more effectively.

Figure: Criteria used by Chinese companies to select foreign technology suppliers or partners

Criteria	Weighted average score
Ability to supply advanced technology	2.70
Ability to supply competitive technology	2.35
Being of worldwide repute	1.89
Specialized company	1.76
Previous experience in China	1.76
Experience of international technology transfer	1.54
Diversified company	1.20

Note:

score = 3 means all companies think the criteria to be most important;

score = 2 means all companies think the criteria to be moderately important;

score = 1 means all companies think the criteria to be least important

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