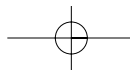
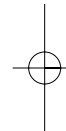
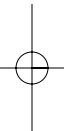


PART I

Overview of new technology ventures in China



1. Growth of new technology ventures in China: an introduction

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CHINA AS THE MOTHER OF EMERGING MARKETS

In recent years, emerging market firms have become important players in global markets. Firms based in emerging markets accounted for \$862 billion of accumulated foreign-direct investment in 2003 (UNCTAD, 2004). While there are other large and important emerging markets such as India, Brazil and Russia, the mother of all emerging markets is China. A recent report published by Boston Consulting Group (BCG, 2004) states that China is emerging as the industrial power base of the future. For the US and Europe, China already represents a large and fast-growing source of industrial products. For example, imports from China represent nearly 20 per cent of all imports from low-cost countries into the US and Germany. Also, China is predicted to be the world's fifth largest source of outward foreign direct investment during 2004–7 (Buckley, 2005) and China's gross domestic product is expected to exceed that of the US by 2040 (Wilson & Purushothaman, 2003). Therefore, within approximately 35 years, China will become the largest and most powerful economic force in the world.

China's current economic power affords its firms considerable opportunities in global markets. Many of China's firms are able to extract more knowledge from foreign partners and are better able to exploit that knowledge than firms from other emerging market countries. These firms are in a stronger bargaining position in partnerships with multinational corporations. Also Chinese firms often have a competitive advantage over foreign multinational firms when operating in other emerging market countries. This is because they have an understanding of the needs of emerging market consumers and how to operate effectively in these countries. Their considerable resource power also gives them significant opportunities. Indeed, several technology firms from China are starting to build a global reputation. For example, Lenovo (the former Legend Group), China's top computer maker founded in 1984 with 11 people and US\$25 000 initial investment, recently acquired IBM's personal computer business for almost

US\$2 billion. Therefore China is a more mature emerging market than many other emerging markets. Perhaps the only emerging market with relatively similar economic potential and competitive strength is that of India (Hitt, Li & Worthington, 2005).

More importantly, different from other emerging markets, China has significantly improved its R&D investments over past years. From 1998 to 2003, China increased its R&D expenditure from US\$6.72 billion (0.70 per cent of its GDP) to US\$18.76 billion (1.31 per cent of its GDP), a 279 per cent increase within a five-year period (China's National Bureau of Statistics, 2004a). China is the most R&D intensive country among all emerging markets (ranked seventh in the world).

ENTREPRENEURSHIP AND GROWTH OF NEW TECHNOLOGY VENTURES IN CHINA

Entrepreneurial and new venture activity is important in emerging markets because it is a critical engine of economic growth and development. In general, there are four forces underlying the rise of entrepreneurship in China, particularly in the nation's technology industries. The first is the emergence of market force. Since its economic reform began in 1979, China's economy has been changing from a centrally planned system to a market-oriented system. This significant institutional transition is characterized by highly uncertain and dynamic markets (Li & Atuahene-Gima, 2001). As Nee (1989:666–7) argued, with the emergence of a more open market in China, administrative redistributors lose power and firms have increasing discretion over the terms of exchange for their goods and services. Also markets provide powerful incentives for firms because firms can retain a great share of the surplus through market transitions. Thus reforms in the form of liberalization and more open markets in China introduce fundamental and comprehensive changes to 'the formal and informal rules of the game that affect organizations as players' (Peng, 2003:275), which encourage entrepreneurial and new venture activities.

The second one is the force of redistributive institutions (for example, government agencies at different levels). China's economic reform involves an incremental process that has been led and controlled by the government. While market-oriented reforms result in the power decline of redistributive institutions, they continue to play an important role in economic activities because the development of market institutions is under way but far from complete. To make the markets thrive and prosper, the Chinese government encourages various businesses, especially private firms, to engage in competition. Government at various levels provides favourable environments

in which creditable commitment to market-oriented policies is backed by relatively reliable administrative procedures. This is in contrast with the pre-reform era in which private entrepreneurship had been actively suppressed or eradicated by the state (Nee, 1989, 1992).

Especially, the Chinese government plays a crucial role in facilitating entrepreneurship in technology industries. In the mid-1980s, impressed by the successful model of Silicon Valley in the US and concerned that their country would be henceforth disadvantaged scientifically, Chinese scientists appealed to the central government, urging that China focus on the development of new and high technologies. Then Chinese leader, Deng Xiaoping, responded rapidly, and the central government announced the 863 Program (initiated in March 1986) that formalized China's intent to develop new scientific and technological capabilities through the creation of national technology development zones (Li, Schoonhoven & Zhang, 2005). The first national technology development zone in China was established in 1988 in Zhongguancun, Beijing. Over the next several years, an additional 52 national technology development zones were founded throughout China (indeed all provinces in China except for the three westernmost provinces, Qinghai Province, Tibet, and Ningxia Autonomous Regions, contain at least one technology development zone).

The establishment of high technology development zones in China has stimulated the significant growth of technology ventures (within the zones). From 1996 to 2003, the number of technology ventures in the zones increased from 13 722 to 32 857, the number of venture employees increased from 1.29 million to 3.95 million, and the venture sales revenue increased from US\$28.1 billion to US\$255.3 billion (China's National Bureau of Statistics, 2004b). Technology ventures in these zones have enjoyed many preferential benefits. For example, in the Beijing Technology Development Zone, technology ventures may get their first three years of tax waived, and can have a 50 per cent reduction in tax over the subsequent three years. In addition, the municipal government of Beijing provided technology ventures in the Zone with certain preferential treatment in land use. The fee for the transfer of the land use rights and the urban infrastructure construction fees are either exempted or collected at a reduced rate.

The third force is foreign direct investment. With a population of 1.3 billion and an immense supply of low-wage workers, China presents important growth opportunities for many foreign investors (Hitt *et al.*, 2005). Indeed China has overtaken the United States to become the largest recipient of foreign direct investment since 2002 (UNCTAD, 2003). The entry of foreign direct investments has not only facilitated China's market-oriented reforms, but also increased new venture activities in China's technology-based industries. The growth potential of technology-based industries has

attracted increasing numbers of foreign entrants. According to a recent report published by China's National Bureau of Statistics (2004b), foreign firms making direct investments have become the major force in the growth of high technology industries in China. For example, in 2003, 33.6 per cent of technology firms in technology development zones were foreign firms (including Sino-foreign joint ventures and wholly owned subsidiaries), which accounted for 83 per cent of China's export of high technology products (62 per cent by foreign wholly owned subsidiaries and 21 per cent by Sino-foreign joint ventures). In contrast, state-owned firms only accounted for 10 per cent of China's export of high technology products.

More importantly, starting from the mid-1990s, many multinational corporations have been exploring the Chinese market by establishing huge R&D facilities there (Li, Holmes & Hitt, 2005; Li & Zhong, 2003; Walsh, 2003). In China, for example, there are approximately 300 foreign-funded R&D facilities, most of which were founded within the last three years (Buckley, 2005). These R&D facilities will help Chinese firms climb further up the technological ladder and increase technology entrepreneurship in this nation.

The last force is the change in Chinese cultural values. Though China's reforms initially were focused on the economy, the transition to the market economy has been changing Chinese socialist cultural values and ideologies. As Chang and MacMillan (1991:379) observed, 'more and more Chinese people are aware that starting their own businesses is the best way to assure their own survival and the survival of the nation'. Thus, entrepreneurs in China are represented not only by peasants and workers, but also by intellectuals. This is in contrast to the Chinese traditional values held by intellectuals in that they did not respect businesspeople and they were unlikely to become involved in businesses. Indeed, over the past two decades, intellectuals from universities, research institutes and government agencies have founded thousands of technology ventures across the country. For example, in Zhongguancun Science Park in Beijing, up to 2003, there were 784 technology firms founded by employees or former employees from universities (for example, Peking University and Tsinghua University) or research institutes (for example, institutes under the Chinese Academy of Science).

The four forces (market, institutional, foreign investment and cultural) we discussed above are not independent but are closely intertwined to affect entrepreneurial and new venture activities in China. Because the economic transition process may require a long time, both the market forces and the redistributive institutions coexist for coordinating the economy, as both of them have allocative control over key factor resources. Li and Atuahene-Gima (2001:1125) specifically argued that in China's transition economy

the redistributive institutions interact with market forces to affect firm outcomes. The economic transition process is also closely associated with foreign investment and cultural changes. On the one hand, economic transition has created opportunities for foreign investments and resulted in cultural and social value changes. On the other hand, the increasing role of foreign investments in China and the changes in cultural values have significantly stimulated the economic transition process. Therefore, to better understand the rise of entrepreneurship and the growth of new technology ventures in China, a comprehensive framework is needed that integrates the market, institutional, foreign investment and cultural factors.

SIGNIFICANT ISSUES ADDRESSED IN THIS VOLUME

The contributors to this volume make an initial attempt in this direction. They link new venture concepts and theories based on developed market economies to a transition market context. More importantly, by addressing the four forces through multiple disciplinary lenses, this book offers a better understanding of how new technology ventures in China's emerging market can grow successfully. The volume is divided into three sections: new ventures and entrepreneurship in China, environment and new venture strategies, and entry of foreign ventures and internationalization of local ventures in China.

The first section is an overview of new ventures in China. It covers three issues. In Chapter 2 Li and Miller's work comprehensively reviews the development of research on new ventures in emerging markets during the period 1990–2004 and they examine the major theoretical perspectives adopted by researchers during this period. Chapter 3, by Gu, Li, Zhang and Zhou, empirically examines the determinants of the survival of technology ventures in China's Zhongguancun Science Park. This study sheds light on the changing role of government and market power in determining firm dynamics in an economic transition context. In Chapter 4, Ahlstrom, Yeh and Bruton's study focuses on venture capital in China. They argue that, while venture capitalists have directed increasing attention to technology ventures in China, the challenges encountered by private venture capitalists in China differ strikingly from those in more mature markets. This study details some of the opportunities and challenges in China and the authors offer recommendations for the way venture capitalists might address those challenges.

The second section, on environment and new venture strategies, offers a diverse range of topics including growth strategy, environment–strategy

interaction, entrepreneurial strategy making and innovation, as well as organizational reward and control practices. Peng's study (Chapter 5) focuses on entrepreneurs in transition economies, describing three major entrepreneurial strategies, prospecting, networking and boundary blurring. Li, Gao and Wu's chapter examines strategies for domestic technology ventures in China's emerging market when facing a global competitive environment. They argue that Chinese culture must be a major consideration in understanding firm strategy formulation and implementation. They further identify four key strategic elements: localization, resource-expansion oriented growth, strategic divergence, and collaboration for competition. In Chapter 7, Li, Zhang and Chan examine the relationship between entrepreneurial strategy making and performance in Chinese technology ventures. They find that the entrepreneurial strategy making-performance relationship is not universal. Instead, a firm can benefit from entrepreneurial strategy making only when the environment is highly uncertain and when the firm has strong marketing competences. Gao and Gao's chapter applies the concepts of barriers to appropriability and opportunities for improvement to explore the possibilities and conditions for local Chinese telecommunication firms to compete against multinational corporations by developing innovation capabilities and proprietary technologies. Their case studies offer new insights into local firms' technology strategies. Lastly, Li, Li, Li and Zhao's study (Chapter 9) investigates the effects of organizational reward and control on Chinese technology firms' innovation and consequently on their financial performance. Results from the analysis of 194 technology firms in China indicate that non-material reward is positively associated with both radical and incremental innovations, whereas material reward seems to have no effect on incremental innovation and to restrict radical innovation in Chinese technology firms. The authors also find that process control encourages radical innovation, but discourages incremental innovation. Contrarily, output control is negatively related to radical innovation, but positively related to incremental innovation. Their study shows that radical innovation contributes to Chinese technology firms' financial performance while incremental innovation does not.

The third section of the book focuses on the international element of new ventures in China. The unique feature of this section is that it not only examines the entry of foreign ventures but also addresses the globalization of local Chinese ventures. In Chapter 10, Brookfield and Li focus on corporate political activities and the ways in which foreign companies have dealt with issues of political risk in the Chinese environment. Using a case study of six foreign ventures in China, they argue that location can be used as a political strategy. In Chapter 11, Zahra examines variations in the learning approaches used by French, Swedish and US new ventures in the

Chinese market and the profoundly important effects of home national culture on the choice of learning approaches. While much of the literature on R&D globalization has focused on multinational corporations from developed markets, Chen and Holmes's study draws upon the resource-based view and organizational learning perspective to examine R&D globalization strategies of technology ventures in China. They find that Chinese technology ventures tend to emphasize access to advanced technology from foreign markets when they pursue R&D globalization. Finally, Zheng and Khavul propose in Chapter 13 that internationalization represents a type of risky organizational change for firms. With a sample of Chinese technology ventures, they find support for their key argument that the probability of a firm engaging in internationalization behaviour is related to its previous performance and its aspiration level.

CONCLUSIONS

New technology ventures in China are continuing to grow. They not only play a crucial role in the Chinese domestic market but also play an increasing role in the global market. However, we need to increase our understanding of how these Chinese technology ventures have been growing so fast and how these technology ventures *learn in order to catch up with* foreign firms in technology-based industries. Also we still know little about how market, institutional, foreign investment and cultural forces jointly affect the growth of these ventures. In this book, we aim to contribute to the strategic management and entrepreneurship literatures by providing insights into the nature of new technology ventures in China. We hope that this book serves as a foundation for an effort to sharpen our understanding of how economic transition affects new venture behaviours and outcomes in the context of technology-based industries.

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