Chapter 14
Innovation Network in IT Sector:
A Study of Collaboration Patterns Among Selected Foreign IT Firms in India and China

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ABSTRACT

Multinational Enterprises usually keep their crucial R&D close to their home base. However, recent trends show that MNEs are increasingly offshoring their R&D activities. A couple of decade ago this R&D offshoring phenomenon was mainly restricted in the developed countries. Since early 1990's this paradigm has changed and many Multinational firms prefer developing countries as their R&D destination. Among developing countries, India and China are favorable destinations for many MNEs. The R&D alliance trends of foreign firms show that, in India they prefer Indian domestic firms and in China, they prefer universities and government research institutes. Government of both these countries should take policy measures to strengthen the linkages between foreign firms and local actor of innovation system. Also, innovation is no longer restricted to or confined within a firm's border. Firms are acquiring knowledge from outside its boundary by "Open Innovation Mode."

1. INTRODUCTION

International business literatures have recognized that there are close associations between Multinational Enterprises (MNEs) and superior technology generation (Zander & Sölvell, 2000). MNEs play major role in production and dissemination of new technology globally (Caves, 2007) and usually exploit their home base Research and Development (R&D) strength at offshore location (Fors, 1997). To exploit home based strength firms usually establish facilities close to existing manufacturing and markets (*home-base-exploiting*). However, firms also acquire new knowledge and capabilities from different knowledge centers dispersed globally (*home-base-augmenting*). These units generally located close to universities and other research institutions (Kuemmerle, 1999). To drive further profit from innovations developed at home and augment the product development, firms invest in R&D in offshore location (Bartlett & Ghoshal, 1989). However, R&D activity outside the home country is one of the least mobile activities of MNEs because of its complex and tacit nature (Pavitt & Patel, 1999; OECD, 2008). Firms generally restrict and do not offshore R&D due to fear of technological knowledge leakage to its potential rivals. The study of technological activities of large firms shows that firms are firmly embedded in the condition of the technological strength in their home country. Even the most internationalized firms rarely go abroad to compensate for their weakness at home (Patel & Vega, 1999). Also, R&D unit located close to headquarter can easily be communicated and coordinated (World Investment Report, 2005). Beside this, firms can easily coordinate with the government bodies (Niosi, 1997). Despite such obstacles, off-shoring of R&D by MNEs are increasing. Various empirical evidences show that the top spenders on R&D have increasingly invested in R&D outside their home country in recent years. In a survey reported in World Investment Report (WIR) 69% firms stated that their share of foreign R&D is going to increase in future (World Investment Report, 2005). Nearly 70% of the firms in a European Commission study have said that they had increased their R&D off shoring over the last couple of years (OECD, 2008).

Today, MNEs are not only exploiting knowledge generated at home in other countries, but also sourcing technology internationally from worldwide centers of knowledge. MNEs are carrying out cross-border innovation projects within globally dispersed network close to specialized knowledge hubs (Zander & Sölvell, 2000). Geographical distribution of knowledge creation is based on the fact that knowledge generation is not restricted to the research lab (Fors, 1997). Knowledge hubs in terms of excellent educational institute and government research institutes are dispersed globally. Also, knowledge is not transferable because of its 'tacit' and often 'sticky' nature. Knowledge is embodied in location and persons and not easily transferable (Pavitt & Patel, 1999; Patel & Pavitt, 1991). This technology scouting process was more prevalent among Triad region (US, Europe and Japan) and among developed countries MNEs. However, in recent years it is taking place in an unprecedented manner and more pervasive. The present internationalization of R&D is *gathering pace*, it is all *invasive* and *spreading* to more and more countries, including developing countries, and it goes beyond adapting technology to local conditions (OECD, 2008). Dunning & Lundan (2009) has also observed that internationalization of the knowledge-creating and knowledge sourcing activities of MNEs are increasing at a phenomenal rate beyond their national origin. However, it is still a less preferred activity than the internationalization of production.

2. FOREIGN R&D IN INDIA AND CHINA

A new trend which may be called as the 'second phase' or 'new geography' of innovation' is being observed in recent the decades. In this phase MNEs from developed countries is increasingly extend-

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