

## Chapter 33

# R&D Internationalization as Mechanism of Innovation in Global Enterprises: A Brazilian Case Study

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### ABSTRACT

*Internationalization of Research and Development (R&D) allows transnational companies (TNC) to access different and important resources overseas, which may lead to the improvement of their technological innovation. The literature in this field has been mostly created from studies of TNCs coming from developed countries. This chapter presents some of the main topics the literature addresses on R&D internationalization, then it will explore and verify how companies in developing countries internationalize their R&D activities. In order to do so, a bibliographic review about strategies of internationalization of TNC operations, as well as motivating factors and management of R&D internationalization have been conducted. The chapter finishes by presenting a case study about international R&D conducted in a Brazilian TNC. The results enabled to evidence that, like developed countries TNCs, developing countries' companies also seem to perform internationalization of R&D activities with very similar characteristics.*

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## **INTRODUCTION**

The success of technological innovation in enterprises depends on their competences in Research and Development (R&D), since it is one important source of knowledge and innovation. When R&D is decentralized to worldwide subsidiaries, corporations are able to access knowledge and connect to local markets. Therefore, these corporations improve their competitiveness over firms whose innovations are generated on national basis only (Birkinshaw et al., 1998).

The spreading of global R&D has grown rapidly over the 1990's (UNCTAD, 2005); phenomenon resulting from companies originating from advanced economies such as USA, European countries, and Japan (von Zedwitz, 2005). However, "internationalization of R&D from developing countries is on the rise" (von Zedwitz, 2005, p. 127), because MNCs from emerging economies are investing in R&D abroad (UNCTAD, 2005).

Inevitably, "most previous research focused on the scenarios of developed economies, thus meaning the issue still needs to be studied from the perspective of developing countries" (Wu, 2007, p. 298). In this manner, this chapter aims at presenting an exploratory research from the Brazilian perspective. In order to do so, it is introduced a literature review addressing relevant aspects of R&D internationalization analyzed in a Brazilian company. This bibliographic review is conducted from two approaches: strategy and management. The first approach is based mainly on the strategies of companies to locate operations abroad by Foreign Direct Investments (FDI) and on the driving forces towards R&D Internationalization. The role of subsidiaries of transnational corporations is the linking topic for strategy and management, once distribution of units globally is strategically determined and the interaction among these global units has to be well managed in order to benefit the whole corporation.

The chapter finishes with a case study of Embraco, a Brazilian manufacturer of electric-electronic products for cooling solutions (hermetic compressors, condensers, evaporators and others). This is an innovative company whose manufacturing activities are located in three continents (America, Europe, Asia), also internationalizing product development function. This example allowed us not only to illustrate topics discussed on the literature section, but also to shed light on R&D internationalization by company from an emerging country.

## **STRATEGIES FOR ENTERPRISES INTERNATIONALIZATION**

Internationalization of companies is quickly increasing as shown by United Nations Conference on Trade and Development [UNCTAD] (2009, 2005). In 1990, the number of worldwide Transnational Enterprises was about 37,000 and with at least 170,000 foreign affiliates; in 2004 this number increased to 70,000 with at least 690,000 foreign affiliates; and in 2008 the number of MNCs jumped to 82,000 with 810,000 foreign affiliates half of them being located in developing countries.

The internationalization of companies is not a recent scenario. In the 18th century, there are accounts of companies, especially European ones, which held business out of their country of origin. However, several aspects of globalization (financial, commercial, productive, economical, institutional) modified the behavior of companies worldwide, thus intensifying their migration. As it is presented, globalization is relatively recent and was originated amidst the significant growth of the post-World War II international business (Baumann, 1996; UNCTAD, 1994), and has consolidated especially due to the technological development of fundamental areas to base global institutional operation: information technology, communication and logistics.

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