Chapter 13
Technical Competitive Intelligence System:
An Innovation and Technology Management Tool

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ABSTRACT

The recent skyrocketing costs of innovation have become a severe limiting factor for companies' internal development of innovation. Open innovation comes as a sounding solution to investments ensuring type, variety, and needed pace in innovation. Open innovation, however, implies the efficiency of a supporting framework to search, gather, and mobilize external technical information into a company. In this chapter, the author proposes and describes the processes and functionalities of a TCI system, conceived to support open innovation processes. The proposed TCI system follows the classical logic of intelligence systems and takes into account the nuances inherent to a technical information intelligence system. The system is also contextually linked to open innovation to show functionality and play a critical role in the implementation of an effective innovation strategy whether of product or service companies.

INTRODUCTION

If we make a quick overview on the evolution of technology and innovation, we will note distinct approaches to innovation process and a multitude of alternative ways to elaborate on stimulating innovation. Rarely, we pay attention to the importance of a key tool to manage innovation: the Technical Competitive Intelligence (TCI). The reasons we need to consider TCI as a critical management tool for innovation are many, but we may pinpoint those considered the most important.

First, most recent innovation models dealing with innovation existing elsewhere, such as dis-

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ruptive innovation, exploration and exploitation processes to innovate, user innovation, distributed innovation, organizational deregulation of innovation processes and open innovation, concentrate on the phenomenon of innovation itself. That means, they study the nature, circumstances and processes that characterize the type of innovation, but seem to pay less attention to informational structures that will make the model work.

Second, innovation models advocating incorporation of innovation from external sources depend on technical information as a critical element to mobilize innovation. They do not discuss critical specificities of the information architecture, such as, planning of the prospection, criteria to select technical information, or even performance appraisal systems to ensure proper assessment of innovation. Lacking the adequacy of a searching architecture of technical information comes in prejudice of the concept of the model itself, to ensure better usefulness.

Finally, the process of generating innovation based on external sources depends on prospecting relevant technical information compatible with the technological footprint of a company. Technological footprint may be defined as the set of combined technological experience, culture and stock of technical knowledge of a company. Therefore, innovating based on external cognitive sources it is not only a question of finding innovation by chance, or even proactively searching it, but it is a question of finding innovation that fits the technical profile of a company. This implies a planned and directed course of action to search innovation from external cognitive sources that would remain within the domain of the technical experiences, culture and stocked knowledge of the company. Of course, this is a praxis requiring systematization of the searching effort and rationalization of processes.

A closer look at methodologies used in large corporations to quest for technologies and innovation from external sources, indicates existing methodologies are somewhat intuitive and less systemic in approach. In general, technical information needs are addressed by internal research and development groups, which, by nature and function, seem to be more focused on solving specific technical needs than systematizing the process of gathering information. In many cases, the lack of systematization of the processes of searching for technical information results in loss of efficiency and sometimes in waste of relevant details. In the industrial context, these problems interfere in the ability of organizations to innovate in a desired or needed pace. The incapacity to innovate with the necessary pace influences the time to market of product and services, and increases risks of losing market shares. It is necessary then to develop a methodology that would boost the effort of the search systematization, specially the search for technical information to support internal innovation. Such systems are known as Technical Competitive Intelligence Systems.

The expert literature in competitive intelligence brings distinct models to search, gather and deliver information (Herring, 1999; Treverton, 2001; Johnston, 2005; Correia, 2006). Some are classical proposition, such as Herring's (1999) approach. Some others are very pragmatic in nature (Treverton, 2001). The fact is that, intelligence approaches to collect information focus on the general needs of information for competitive business purposes. Rarely do they embrace the technical intelligence (Prescott & Miller, 2001), involving the needs of technical information contents.

Technical information contents normally are associated with a specific innovation strategy. One recent model that supports a proven effective innovation strategy is the Open Innovation Model (Chesbrough, 2003). It proposes to bring innovation from external cognitive sources, beside the internal ones. Open innovation model, by the logic of its process, works well if it is associated to a technical intelligence system.

It is our purpose in this chapter, to discuss a model to gather, select and deliver technical information to boost the implementation of open