

# Chapter 12

## Maturity in Innovation Network Management

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### ABSTRACT

*Companies are focusing increasingly on the creation and maintenance of external networks for innovation. The purpose of this chapter is to introduce the reader to the concept of network management and demonstrate the principal attributes that impact the formation and optimization of innovation networks, based on the network's objectives, the combination of the characteristics of the network's participants as well as the network's organizational format to attract and maintain the partnership. To reach this purpose, we present the results of a benchmark study undertaken in Brazil, the United States of America and Europe between March and June 2009. In this study, we interviewed executives at 24 leading companies known as innovators in their industry. Through the results we were able to identify a maturity model consisting of four levels for innovation network management: initiators, explorers, established and world class.*

### INTRODUCTION

The complexity of current Research, Development and Innovation activities (R,D&I), ever increasing cost of these activities, more sophisticated customer demands and shorter product life cycles, have raised the gap between the need for innovation and what companies can deliver internally.

This situation has stimulated companies to create innovation models based on collaboration with external sources, such as universities, clients, companies from other sectors, or even competitors, searching to improve their innovative capacity and performance. This new framework is being referred to as "Open Innovation".

With the concept of open innovation becoming common, companies are focusing increasingly on

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the creation and maintenance of external networks for innovation. Unfortunately, this often occurs without using a holistic approach to the architecture of networks and individual participants. Companies often look at specific competencies that need development and do not evaluate the network composition and its effectiveness based on the specific network's objectives and its contribution to the overall company strategy. This can create malfunctioning of the networks, not being able to obtain the network's goals and thereby not having the impact as expected on the companies strategic objectives.

Much has been written about innovation networks and their management. Literature includes discussions of how management of external networks differs from the more traditional way of managing strategic alliances (a.o. Gulati, 1998) as well as how to measure the effectiveness of specific networks (a.o. Segil, 2004). We identified an opportunity to research more extensively how organizations link different types of networks to organizational strategic goals and define methodologies to optimize network composition and architecture. It requires a portfolio view of networks, as already indicated by Vanhaverbeke e Cloudt (2006).

For this research we developed a theoretic framework on the ways companies are managing the composition and structure of their innovation networks, measuring the fit between the network's objectives and the management activities of the company in regards with the network. To develop this theoretical framework, we combined and adapted several theoretical models developed in books and articles from renown authors in this area. The main references we used were: "Alliance portfolios: designing and managing your network of business-partner relationships" (Parise & Casher, 2003), "Open innovation: researching a new paradigm" (Chesbrough & Vanhaverbeke, 2006) and "Effective practices for sourcing innovation" (Slowinski, 2009).

Our research was undertaken amongst 24 Brazilian, European and American based firms. Our method was based on testing our theoretical framework mainly through structured, partially qualitative, partially quantitative interviews. This study was for a large part concluded in 2009 and preliminary results of the research were presented during the International Society of Professional Innovation Management (ISPIM) conference in Austria in 2009.

Our research amongst the 24 international organizations, showed that some common good practices exist among companies when it comes to open innovation management. Although some practices partly depend on the company's industry or R,D&I investment levels, we see that many practices are common and their use depends on the company's level of maturity regarding open innovation networks. The main results from our study therefore was the construction of a maturity model for open innovation, based on four dimensions: strategic, relational, support and organization.

We hope this study will contribute to a better understanding of how innovation networks work and how to develop them. The maturity model should contribute to the debate around best practices in network management for open innovation.

## **INNOVATION NETWORKS**

Traditionally, Research and Development at large organizations have been handled internally. Large R&D organizations were seen as important assets to their companies and focused on discovering, developing and commercializing technologies and products internally. This type of R&D is called "closed innovation" (Chesbrough & Vanhaverbeke, 2006).

However, the complexity of current Research, Development and Innovation activities, ever increasing cost of these activities, more sophisticated customer demands and shorter product

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