

## Chapter 65

# Competitive Advantage, Open Innovation, and Dynamic Capabilities: Is Sanofi Employing an Open Innovation Strategy?

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### ABSTRACT

*This chapter deals with a particular type of dynamic capability: dynamic relational capabilities. They are defined as the organisational ability of a firm to enter into successful business relationships with other actors. It is shown that these abilities, based on organisational memory, are expressed in particular through the acquisition of assets and the conclusion of partnerships/alliances. In the pharmaceutical industry, open innovation strategies are the concrete proof of such abilities. Indeed, this sector is considered to be a High-Velocity Environment characterized by a high rate of change. Such change, challenging firms' competitive advantage, fosters the development of dynamic capabilities and open innovation strategies. These theoretical considerations are illustrated by reference to the innovation strategy adopted by the Sanofi group, particularly since 2008.*

### INTRODUCTION

How can a firm develop and maintain a competitive advantage in a turbulent environment? What are the determinants of the performance of an organisation in this kind of environment? The concept of dynamic capabilities, proposed by Teece and Pisano (1994), can help us to answer these fundamental questions of strategic management. For these authors, dynamic capabilities are: *the firm's ability to integrate, build*

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*and reconfigure internal and external competences to address rapidly changing environments* (Teece et al., 1997, p. 516). This approach allows the concept of competitive advantage to be extended: a competitive advantage remains effective throughout the recurring modification of the firm's core resources and skills. In the same way, it offers a dynamic approach to the firm's resources, insufficiently taken into account in the Resource-Based View approach (Barney, 1986, 1991; Grant, 1991; Peteraf, 1993; Wernerfelt, 1984).

There is no consensus as to the definition of dynamic capabilities. Although many authors (Eisenhardt & Martin, 2000; Helfat et al., 2007; Pavlou & El Sawy, 2011) have used this concept, they have not always defined dynamic capabilities in the same manner. This diversity of approaches leads both to theoretical difficulties and problems of implementation that provide a challenge for researchers. The first challenge is to clarify what is meant in concrete terms by dynamic capabilities. Mainly defined by its consequences (the resilience of the organisation), this approach requires that its determinants be identified (Pavlou & El Sawy, 2011). The second challenge concerns the materialisation and formulation of methodologies for evaluating these capabilities.

This chapter makes progress on both of these fronts, on the one hand through the link between organisational memory and dynamic capabilities, and on the other hand between these capabilities and one of their concrete expressions: open innovation. Studies of open innovation underline the need to understand strategies in high-technology industries (Chiaroni et al., 2011; Lichtenthaler, 2011; Loilier & Tellier, 2011) as well as in 'high-velocity environments' (Eisenhardt & Martin, 2000). Our hypothesis is as follows: in the field of R&D, open innovation strategies are an expression of a particular category of dynamic capabilities: dynamic relational capabilities. These are taken to be the ability of an organisation to seek the resources necessary for the enrichment and development of its own competences from outside its own boundaries.

We will illustrate these theoretical positions by studying the research and development strategy of the pharmaceutical group Sanofi during the period 2004-2013. We will show that through a process of open innovation based on partnerships/alliances<sup>1</sup> and a policy of acquisition of specific firms, the Group profoundly modified its R&D practices in biotechnology and its approach to genetics.

## **BACKGROUND: DYNAMIC CAPABILITIES, OPEN INNOVATION AND ORGANISATIONAL MEMORY**

Dynamic capabilities refer in particular to the interactions between an organisation and its environment. More precisely, they designate the processes through which an organisation mobilizes resources and skills so as to reconfigure its internal and external systems in order to adapt to environmental changes (Teece et al., 1997). Among these processes, open innovation constitutes a possible strategy in situations involving a high degree of uncertainty, situations which call for novel responses. Open innovation processes are characterized by behaviour involving a particularly high degree of interaction between firms whose objective is, most of the time, the exchange of knowledge. They allow firms to nourish and to structure all the cognitive and conative systems which make up their organisational memory. The firm thus adapts its organisational diversity to the contexts of uncertainty that it encounters (Eisenhardt & Martin, 2000).

In what follows we propose to establish the concept of dynamic capabilities by reference to organisational memory. Organisational memory is understood to be all of the cognitive and conative resources available to an organisation at a given moment (Gilly et al., 2014). It is these resources that an organisa-

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