Chapter 5
What is the Degree of Inbound Open Innovation in Spanish Firms?
An Exploratory Analysis

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ABSTRACT
The aim of this chapter is to examine the degree to which Spanish firms follow the open innovation paradigm regarding the acquisition of technology assets. The research question is what is the degree of Inbound Open Innovation in Spanish Firms? To answer that question, the author has selected a sample of small, medium and large-size Spanish firms and they include firms from the industrial and service sectors. A two-step cluster analysis has been developed to classify firms in five groups and they have analyzed the differences between the firms included in each cluster in relation to the firms’ characteristics and innovation behavior. The author has find that firms with higher degrees of Inbound Open Innovation are the most innovative in terms of product and process, they are the firms that buy more R&D services and usually cooperate with other organizations to develop R&D and innovation activities.

INTRODUCTION
Chesbrough was the first to define Open Innovation (OI) as: “The use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology”. (Chesbrough, 2006a, p. 1).

Therefore, open innovation has emerged as a model where firms commercialize both external and internal ideas/technologies and use both external and internal resources (Chesbrough, 2003a).

The new paradigm for the management of innovation has quickly gained the interest of both researchers and practitioners. Following Chesbrough’s model, a new research line has been developed. Previous literature has analysed openness, the benefits of openness and its effects on the firms’ innovative behaviour (Dahlander &
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Gann, 2010). In that context, there is a group of studies that focuses its attention on the definition and delimitation of ‘open innovation’ and on the development of typologies for open innovation, as for example: inbound -acquisition of external technology in open exploration processes- and outbound open innovation -the outward transfer of technology in open exploitation processes- (Chesbrough & Crowther, 2006; Lichtenthaler, 2008; 2009; Van de Vrade, Jong, Vanhaverbeke & Rochemont, 2009).

More general lines of research concentrated on internal innovation and external technology acquisition (Griffin, 1997; Lichtenthaler, 2009) and prior works in this field are mostly based on theoretical considerations and case studies (Chesbrough, 2003b; Lichtenthaler & Ernst, 2006) or analyze very specific issues in large-scale studies (Chesbrough, 2003c; Laursen & Salter, 2006). Otherwise, there are few empirical studies that have examined the degree to which firms follow the open innovation paradigm regarding the acquisition and commercialization of technology assets (Lichtenthaler, 2008). Open innovation is still a rather new area of research and many of the responses underline the need to explore further, specially the terminology and the degree of openness (Dahlander & Gann, 2010; Fredberg, Elmquist & Ollila, 2008).

In this chapter, we focus our attention on inbound open innovation (IOI). Inbound open innovation refers to the acquisition of external technology in open exploration processes, that is, it refers to inward technology transfer (Chesbrough & Crowther, 2006; Lichtenthaler, 2009, p. 318). Some of the researchers argue that the terminology and the measurement of the concepts/constructs need further development. Prior literature on open innovation has used different definitions of the terminology and uses different measures for open innovation and its types. That is a problem in comparing the results of papers and in applying the results and conclusions to other situations.

The aim of this chapter is to examine the degree to which Spanish firms follow the open innovation paradigm regarding the acquisition of technology assets. The research question is What is the degree of Inbound Open Innovation in Spanish Firms? To answer that question, we have selected a sample of small, medium and large-size Spanish firms and we include firms from the industrial and service sectors. A two-step cluster analysis has been developed to classify firms in five groups and we have analyzed the differences between firms included in each cluster in relation to firms’ characteristics and innovation behavior.

This chapter provides new empirical evidence about the use of open innovation for Spanish firms. This essential question has been examined in earlier works but the previous studies use data of middle and large or small European companies (Germany, Switzerland, Austria, or the Netherlands) from industrial sectors. In this chapter, we have reviewed the measurements for inbound open innovation and we have proposed a more complete group of variables to measure it. In addition, we have selected a large sample of Spanish firms from all sectors and of all sizes.

OPEN INNOVATION: CONCEPT AND TYPOLOGIES

Why is internal R&D no longer the strategic asset it once was? Chesbrough answered that question by considering the practicability of the old model of innovation (closed innovation) and developing a new model (open innovation): “in the old model of closed innovation, firms adhered to the following philosophy: successful innovation requires control. In other words, companies must generate their own ideas that they would then develop, manufacture, market, distribute and service themselves”. This approach calls for self-reliance: if you want something done right,