

# Chapter 14

## Open Innovation and Its Applicability in SMEs

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### ABSTRACT

*Rapidly changing consumer demands and needs have shortened the life span of products and services. Innovative products that are produced with long and intensive studies of R&D departments complete their life spans in a short time. Therefore, firms tend to search for interesting ideas developed outside the boundaries of the enterprise. Within this framework, by going beyond innovation, the concept of open innovation emerged as a remedy for the achievement of sustainable competitive advantage. Chesbrough defined open innovation as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation.” The research of open innovation in SMEs is primarily important since SMEs tend to open up more than large firms to reach external knowledge and technology for innovation. In this context, the aim of this chapter is to identify open innovation practices, motivations, intentions, and challenges in SMEs by systematically reviewing related concepts with open innovation in SMEs.*

### INTRODUCTION

Rapidly changing consumer demands and needs have shortened the life span of products and services. Nowadays, innovative products that are produced after long and intensive studies of R&D departments complete their life spans in a short time. This is leading to the disappearance of the sustainable competitive advantage achieved by firms. Hence firms are increasingly search for interesting ideas developed outside the boundaries of the enterprise (Vanhaverbeke, Van de Vrande & Chesbrough, 2008). Within this framework, by going beyond innovation, the concept of open innovation has emerged as a remedy for the achievement of sustainable competitive advantage. Open innovation includes both outside-in and inside-out diffusion of technologies, information and ideas (Verbano, Crema & Venturini, 2015) as well as being associated with “technology exploration” and “technology exploitation” (Chesbrough, 2003). In fact, today, many firms have the desire to add to their business models not only the commercialisation of their own technologies but also of external Technologies (Henttonen & Lehtimäki 2017).

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Whilst open innovation has increasingly drawn the attention of scholars, this has been mainly investigated in relation to large, high-tech multinational companies. Recent qualitative studies have demonstrated that how large companies like P&G, IBM and Xerox become distanced from depending on solely their internal R&D and instead, are now constantly searching for external knowledge for innovation as well (Keko, Prevo & Stremersch, 2018). Quantitative research on external knowledge acquisition has provided evidence that utilising external sources of knowledge in innovation is a hot prospect for future for large enterprises (Usman & Vanhaverbeke, 2017). However, in contrast to research on large enterprises, only a limited amount of research (Savitskaya, Salmi & Torkkeli, 2010; Krause, Schutte & du Preez, 2012; Rahman & Ramos, 2013; Brunswicker & Vanhaverbeke, 2015; Bigliardi & Galati, 2016; Hossain & Kauranen, 2016; Hitchen, Nylund, Ferras & Mussons 2017; Freel & Robson, 2017; Martinez-Conesa, Soto-Acosta & Carayannis, 2017; Santoro, Ferraris, Giacosa & Giovando, 2018) has been conducted regarding open innovation in SMEs, even though they constitute the largest number of companies almost in every economy (Alvarez & Iske, 2015). Studies on open innovation in SMEs reveal that utilising external knowledge sourcing has positive performance implications for them in the long run (Choi, Lee & Ham, 2016). Nevertheless, it has been also determined that, although the boundary spanning nature of open innovation positively affects SMEs' performance, they still face some difficulties with the open innovation process, because they are having to cope with the liability of smallness, facing budget constraints and scale limitation as well as possessing fewer technological assets than larger firms (Brunswicker & Vanhaverbeke, 2015).

In this context, the aim of this chapter is to identify the open innovation practices, motivations, intentions and challenges for SMEs and by systematically reviewing relevant concepts, thereby contributing to the existing literature. By the end of this literature review, it will be evident that, the success of open innovation practices for SMEs is highly related to their collaboration in science parks, since they can help them to overcome the difficulties associated with these practices

The chapter is organised as follows. First, the methodology of the literature review is given and the facets of open innovation will be introduced. Second, the attributes of SME's will be explained, whilst finally, motivations, goals impediments and the role of science parks in the open innovation process in SMEs will be specified.

## **METHODOLOGY OF THE LITERATURE REVIEW**

This chapter is composed of an integrative type of literature review in order to provide a more comprehensive understanding of open innovation practices in SMEs that have up to 200 employees. In this regard 74 documents in JSTOR, EBSCOhost, ScienceDirect, Scopus, ProQuest, Web of Science, Springer and Sage that use any design quantitative or qualitative and discuss open innovation practices associated with SMEs between 2003 and 2018 are synthesised. When selecting the studies, the following key words were used: open innovation, approaches to open innovation, inbound open innovation, outbound open innovation, approaches to open innovation paradigm, SMEs, characteristics of SMEs, motivation, purpose and barriers to open innovation in SMEs, science parks and technology parks. The literature review starts below with articles that include the basic concepts about open innovation.

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