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# Knowledge relatedness and post-spin-off growth<sup>☆</sup>

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## Abstract

In this article, we examine the effects of knowledge relatedness on the post-spin-off growth of firms spun off from industrial parent firms. We predict that growth is maximized when the knowledge base of the spin-off firm partially overlaps with that of its parent. This effect is due to learning: both too small and too great an overlap will inhibit growth, the first because limited knowledge overlap hampers local search and knowledge assimilation and the second because great knowledge overlap hampers the creation of novel knowledge combinations. The propositions are tested and confirmed using a sample of 54 industrial spin-off firms from Finland.

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*Keywords:* Knowledge relatedness; Post-spin-off growth; Industrial parent firms

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## 1. Executive summary

Previous research suggests that interorganizational relationships offer a significant source of learning for young firms. By collaborating, young firms are able to combine distinct pieces

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of knowledge by tapping into the resource base of their partners. Knowledge combination may lead to the development of new products or improvement of production and marketing processes. In other words, learning in interorganizational relationships may translate into a significant competitive advantage for young firms and an engine for their growth.

In this article, we focus on learning in the relationship between a spin-off firm and its parent. In particular, we investigate the impact of knowledge overlap on growth of the spin-off firm. We suggest that the more efficient a spin-off firm's learning from its parent, the more rapid will be the accumulation of knowledge in the spin-off firm, resulting in faster post-spin-off growth. The efficiency of learning will be regulated by the degree to which there is overlap between the knowledge bases of the two firms involved in the learning relationship.

Minimal knowledge relatedness (no or little overlap between the knowledge bases of the firms) hampers learning because assimilation of knowledge suffers. Extreme knowledge relatedness (i.e., very high overlap between the knowledge bases of the two firms) hampers learning because the potential for novel knowledge combinations is reduced. As a result, learning should be a curvilinear function of the knowledge relatedness between the knowledge bases of the respective firms. This effect should be manifested in the spin-off firm's growth, as a curvilinear function of knowledge relatedness. Our study confirmed this hypothesis by showing that medium levels of technology knowledge relatedness and production knowledge relatedness produce the highest levels of post-spin-off growth.

Our results highlight the value of knowledge overlap in an inter- and intraorganizational relationship. However, it seems that there can be too much of a good thing—i.e., beyond a point of knowledge overlap, little additional knowledge is generated through interaction and may actually hamper progress. Nonetheless, the results do suggest that ventures with diverse knowledge bases may expect to learn from one another through collaboration as long as there is some knowledge overlap, and such learning may result in such tangible outcomes as growth.

This study addresses a significant gap in existing literature by providing empirical evidence of the relationship between knowledge relatedness and performance in internal corporate ventures and spin-off firms. Past evidence has been inconsistent. Much of the received diversification research has predicted linear performance effects of market competition synergies, production synergies, and technological synergies, but results have been mixed. Our results help to identify a possible cause of past inconsistent results and hence may reinvigorate knowledge-based investigations of inter- and intrafirm knowledge transfer.

## **2. Introduction**

For young firms, the race for survival and growth is very much a race for learning. Learning results in the accumulation of distinctive firm-specific knowledge, which in itself constitutes a driving resource for growth (Penrose, 1959; Spender and Grant, 1996; Zahra et al., 2002). As organizational learning is largely driven by knowledge combination, a young firm needs to become efficient in combining and assimilating diverse items of externally sourced knowledge with its internal knowledge base (Kogut and Zander, 1992; Cohen and

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