



# The impact of network capabilities and entrepreneurial orientation on university spin-off performance

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## Abstract

Drawing on a database of 149 university spin-offs, we investigated the impact of network capability (NC), defined as a firm's ability to develop and utilize inter-organizational relationships, and entrepreneurial orientation (EO) on organizational performance. Not only do the results suggest that a spin-off's performance is positively influenced by its NC, but the findings also indicate that a spin-off's EO fosters competitive advantages. Although no direct relationship is apparent between EO and sales growth, sales per employee, or profit attainment, moderated hierarchical regression analyses reveal that NC strengthens the relationship between EO and spin-off performance. In sum, our research shows that a spin-off's organizational propensities and processes that enhance innovation, constructive risk taking, and proactiveness in dealing with competitors per se do not enhance growth and secure long-term survival. However, we found that NC moderates the relationship between EO and organizational performance.

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*Keywords:* Entrepreneurial orientation; Network capability; University spin-off; Technology transfer; Academic entrepreneurship

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## **1. Executive summary**

University spin-offs, usually formed to commercialize technologies originating from publicly funded research institutions, may effectively contribute to economic prosperity and job creation. Although there is increasing interest in academic entrepreneurship and entrepreneurial orientation, little empirical research identifies organizational properties that foster the growth and long-term survival of university spin-offs.

Drawing on a database of 149 university spin-offs, we investigated the impact of network capability (NC) and entrepreneurial orientation (EO) on organizational performance. NC comprises a firm's abilities to develop and utilize inter-organizational relationships to gain access to various resources held by other actors. Four dimensions of NC are distinguished: coordination, relational skills, market knowledge and internal communication. EO represents a strategic orientation that describes a firm's organizational autonomy, willingness to take risks, innovativeness, and proactive assertiveness. NC and EO are predicted to directly contribute to the performance development of spin-offs.

Our study shows that the performance variables sales growth, sales per employee, profit attainment, perceived customer relationship quality, realized competitive advantages, and long-term survival, are influenced by a spin-off's NC. The results of this research highlight two issues. First, they support the recent arguments of entrepreneurship scholars that networks are important for spin-off success. Second, as we have analyzed networking ability, and not only the existence of a network, we contribute an insight motivated from the capability-based view of the firm: university spin-offs perform better with an increasing degree of network capability. Given the four dimensions, managerial attention should focus on increasing coordination, relational skills, market information and internal communication in order to develop NC, thereby contributing to spin-off success. All of these dimensions are manageable and directly relevant to implementation efforts.

EO was not found to have a significant direct effect on sales growth, sales per employee, and profit attainment, leading to the conclusion that the existence of EO per se does not promote financial growth of a spin-off. These results support the general notion that the EO–performance relationship depends on the context in which it occurs. This suggests that an overstated interest in EO by such actors as venture capitalists might be misleading. However, this study demonstrates the highly significant direct effect of EO on the realization of competitive advantages and the moderately significant effect on perceived customer relationship quality. EO enables an academic spin-off to aggressively compete with competitors, thereby offering customers valuable innovative products and services that may promote a long-term commitment.

Furthermore, NC moderates the relationship between EO and spin-off performance. We found that the two variables interact significantly on sales growth, sales per employee, profit attainment, realized competitive advantages, and long-term survival. Thus, NC strengthens the relationship between corporate EO and spin-off performance. These results further emphasize NC, and its analysis and development in spin-offs.

These results have important implications for the management of university spin-offs. Firms should note that an entrepreneurial orientation, in and of itself, is not enough to compete in today's markets. EO is an entrance ticket that allows for a higher impact of competencies on performance. Entrepreneurial ambitions alone do not create value and

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