

MISQ Archivist

External Knowledge and Information Technology: Implications for Process Innovation Performance

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Abstract

Prior research highlights the vital role of information technology (IT) for innovation in firms. In this paper, we draw on the knowledge-based view of the firm to investigate how search in external knowledge sources and information technology for knowledge absorption jointly influence process innovation performance. Our model is tested on a nine-year panel (2003–2011) of Swiss firms from a wide range of manufacturing industries. Using instrumental variables, and disaggregating by type of IT, we find that data access systems and network connectivity hold very different potential for the effective absorption of external knowledge, and the subsequent realized economic gains from process innovation. Against the backdrop of today's digital transformation, our findings demonstrate how firms should coordinate strategies for sourcing external knowledge with specific IT investments in order to improve their innovation performance.

Keywords: Business value of IT, digitization, economics of innovation, knowledge-based view of the firm, absorptive capacity, innovation strategy, open innovation, external search, process innovation, firm performance