

# Network Dynamics and Knowledge Transfer in Virtual Organizations<sup>1</sup>

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**Abstract:**

Product development within and across community-based and geographically dispersed virtual organizations is becoming an increasingly important mechanism through which individual knowledge holders create and disseminate knowledge in joint efforts to generate products. In this paper, we examine whether particular network structures foster knowledge transfer among distinct open-source projects. Deploying panel data, we compare organizations that were in a giant component of a network for relatively long periods of time with organizations that joined the giant component during the sample period. Our findings show that joining a large pool of knowledge (i.e., a giant component) allows projects to gain access to high-impact, novel knowledge and ideas. Moreover, established projects within the giant component benefit differently from changes in network structures than projects that only recently entered such giant component of a network.

Keywords: Network Dynamics, Knowledge Spillovers, Social Network, Open Source

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