

# MISQ Archivist

## More Is Not Necessarily Better: An Absorptive Capacity Perspective on Network Effects in Open Source Software Development Communities

*Tanya Tang, Eric Fang, and William J. Qualls*

---

### Abstract

Previous research has predominantly taken a social network perspective suggesting that building more network connections or becoming deeply embedded in a network provides a better position to access network knowledge in open source software communities. This perspective implicitly assumes that accessed network knowledge automatically gets absorbed and transferred to projects, so that building more and deeper network connections is beneficial. Drawing from the absorptive capacity perspective, this research challenges such conventional wisdom, arguing instead that the benefits depend on a project's absorptive capacity. Network connections provide access to external knowledge in the community; the absorption and transfer of this new knowledge require appropriate internal knowledge and developer roles. With longitudinal data collected from 4,518 open source software development projects hosted at SourceForge, the authors show that knowledge breadth (depth) helps with the absorption of external knowledge achieved from network depth (breadth), but it inhibits the absorption of external knowledge obtained from network breadth (depth). Further, developer roles (e.g., bridge members, role diversity) can mitigate the negative consequences of suboptimal combinations and facilitate effective transfers of absorbed external knowledge across and within projects. These findings provide important theoretical and managerial implications for managing network connections, knowledge, and developer roles in open source software communities.

**Keywords:** Open source software development, network breadth, network depth, knowledge breadth, knowledge depth, bridge members, role diversity