Title: Innovating in interorganizational networks: Probing knowledge creation across organizational and specialization boundaries

Abstract:

Interorganizational networks – organizational systems characterized by organizational and specialization boundaries – are replacing more traditional vertically integrated hierarchical organizations (Barley et al. 1992, Dyer and Singh 1998). At the same time, competition between individual firms “is becoming less universal, as pairs and networks of allied firms have begun to compete against each other” (Dyer and Singh 1998:675). Just as innovation and knowledge creation are central drivers of competitive advantage for individual firms (Argote and Ingram 2000), gaining and sustaining network-level competitive advantage requires knowledge-creation across organization and specialization boundaries (Teece 2007).

Recent developments in research on knowledge boundaries conceptualize knowledge as being embedded in work practices. This practice-based view extends the more traditional view on knowledge which sees knowledge primarily as a thing to be possessed and transferred across boundaries (Orlikowski 2002). Moreover, the practice-based view understands key knowledge creation processes at boundaries as transformation; for new knowledge to emerge, existing knowledge must be represented, negotiated and altered from across different boundaries (Carlile 2004). As new knowledge is generally conceptualized as combination of old knowledge (Nahapiet and Ghoshal 1998), understanding how knowledge is created in interorganizational networks requires one to understand how pieces of existing knowledge are combined at both organizational and specialization boundaries.

Empirical research on knowledge creation through transformation has been largely based on studies within single firms. This research has been critical in describing central problems and potential solutions pertaining to new knowledge creation across specialization boundaries. Due to its focus on single firms, however, there is little detailed description and subsequent theorizing on how different pieces of knowledge are combined across both organizational and specialization boundaries. To advance the knowledge transformation discussion toward interorganizational networks, we took seriously Daft and Lewin’s (1990, 1993) suggestions for studying interorganizational phenomena directly, and designed a quasi-laboratory setting for observing knowledge transformation across multiple boundaries. We arranged three full-day interorganizational strategy workshops where we audio and video recorded all cross-boundary knowledge exchanges. We asked: how is practice-based knowledge combined across organizational and specialization boundaries?
Based on a detailed analysis of 1,118 speech acts that cross organizational or specialization boundaries, we find that combining existing knowledge from disparate parts of interorganizational networks occurs through four stages: representation, negotiation, proposal and validation. The process begins when existing knowledge is represented by an individual. Then, the represented knowledge becomes negotiated when its content is assessed from across a boundary by either agreeing or disagreeing with the representation. Next, for knowledge negotiation to be successful (i.e. so that individuals would eventually agree upon represented and negotiated knowledge), a novel solution combining elements from represented pieces of knowledge must be proposed. Finally, for the proposed knowledge to become validated as new knowledge, the proposal must be met with an agreeing response from across the boundary. Although our data strongly support these findings, it is noteworthy that out of such a large number of data points, we only identified 20 knowledge transformation cases at the interorganizational boundary. This is important for two reasons; first it demonstrates that knowledge transformation across organization boundaries is difficult to achieve and, second, it highlights the importance of better understanding knowledge transformation in networks. If networks are to be the new locus for innovation (Powell et al. 1996), then we must improve our understanding of the knowledge transformation processes required to achieve innovation in networks.

Our findings contribute to knowledge transformation literature (Bechky 2003, Carlile 2004) by providing a more nuanced understanding of the new knowledge creation process at organizational and specialization boundaries. As such, our work provides an initial step toward clarifying the key knowledge transformation constructs and their relationships in the context of interorganizational networks. Our work also suggests that research on interorganizational networks and innovation (Owen-Smith and Powell 2004, Taylor and Levitt 2007) should embrace more fully the notion that knowledge is embedded in work practices, and therefore the mere transfer of knowledge across boundaries may not suffice for innovations to emerge in networks.

References


