

## INSIGHTS FROM ACADEMIC PUBLICATIONS

***Networks – those sets of firms connected by several means including cross-patenting, licenses, and formal alliances or ventures – are important structures that impact innovation and performance of the participating firms.*** These authors provide the argument that firms that take a leadership role or “hub firms”, can use tools to orchestrate network activities that increase the level of innovation and the extraction of value even though these firms have no legal hierarchical authority. To accomplish this, hub firms must manage the flow of knowledge, innovation appropriability, and network stability.

To increase the flow of knowledge, hub firms can help to create the capability of firms to use others’ knowledge and skills, create a ‘network’ identity, and increase social exchanges across the firms. These activities help to manage the flow of knowledge among firms, which can help produce value creation through innovation.

Once value is created, the benefit must be distributed fairly among firms. Hub firms can facilitate equitable distribution of benefits by building trust, encouraging procedural justice (such as bilateral communication, the ability to question decisions, accountability, and consistency in decision-making processes), and joint ownership of or access to assets. These steps help to ensure alignment of goals and build incentives for sharing rewards.

Network instability will threaten the benefits of the network and occurs when firms are isolated, form cliques, migrate to other networks, or leave the network for other reasons. To keep the network from unraveling, hub firms can work to enhance the reputation of the network, promote cooperation based on its longer-term ramifications, and increase the ways in which firms interact. Each of these steps increases the network’s resistance to dissolution.

Dhanarai, C. and A. Parkhe (2006), “Orchestrating Innovation Networks”, *Academy of Management Review*, Vol. 31 No. 3, 659- 669.

### **SBIC Comment:**

It is hard to argue with the statement that the networks of biotech firms are critical for their success. However, the steps that firms take to manage these networks to produce maximum benefit are not always clear. This research note suggests specific steps that firms can use to increase the likelihood that their networks create and capture value.

In addition, although the research note does not specifically suggest this, the role of the “hub firm” may be carried out by more than one firm. Though a large biotechnology organization may appear to be the ‘natural’ hub, in actuality various departments within the large organization, and even small firms, have the opportunity to behave as a hub firm in the network. Contrary to any notion implied by the term ‘hub’, which firm or area of a firm takes on the practices that increase network benefit isn’t necessarily monolithic in practice.