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## Discussion

**Coburn.** Would the system used in the MEC benchmarking study allow you to show a breakeven point?

**Oldsman.** Yes. The operating cost per hour, which is what you have to recover, is the breakeven point.

**Redivo.** How are you defining new prospects?

**Wilkins.** Initial site visits.

**Martin.** That relates to having the capacity to do the work.

**Oldsman.** That relates to what Ruth says. Whether the center's strategy is to think about growth vs. whether the center's strategy is to manage against a budget. Most centers manage against a budget.

**Haines.** Do you know what direction is good?

**Oldsman.** I think the group felt that the first two measures--the percentage of available time spent on projects and the cost per project hour--were unambiguous. The other measures relate to the center's business model. Then it became an issue about strategically thinking where do we think we should be, noting that there are tradeoffs. A center director may say that the center wants to reach a lot of companies prospecting, but allocating more resources to prospecting is going to drive down other measures. Now centers are thinking through this, deciding where they want to be on the various measures, so that drives other decisions. Also centers are using this as a management tool. If a center's prospects are down and projects are closing, then the center in trouble.

**Wilkins.** This has focused our center to think about how we want to look and what we want our model to be.

**Martin.** In the partnership study, wouldn't your definition of partner depend on the model that the center adopts? For example, how would your study define partners in the case of centers that employ the broker model?

**Youtie.** Even though the broker model employs few core staff in the host organization and mostly relies on partner organizations for service delivery, we still consider those partner organizations to be third party affiliates. For example, when interviewed, the core staff in the host organization of the center refer to themselves as "we" and refers to the staff that the center funds in the affiliated organizations as "them".

**Oldsman.** In the cross-case analysis of network case studies, how did the coders determine that a network had an impact? When the coders saw something in the case that said sales impact, did they coded it yes?

**Kingsley.** Yes. These were considered to be the outcomes from the network.

**Jarmin.** Could you have a sales impact from a network with human resource development as its primary purpose?

**Kingsley.** Yes. Our cross-case analysis found that the type of activity/purpose of the network was not related to the type of impact.

**Oldsman.** What do you do when your three coders disagree about whether a sales impact really was mentioned in a case.

**Kingsley.** We code that as inter-item disagreement.

**Oldsman.** If somebody didn't write about an impact, did you assume the impact didn't happen?

**Kingsley.** Yes. We assumed that. But the cases had to have some language

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about impacts or they were thrown out prior to the formal cross-case analysis.

**Jarmin.** If you only select ones that report about impacts, aren't you biasing your results?

**Kingsley.** The set of evaluative questions we were addressing had to do with impacts. Also, this technique is designed as a data reduction technique.

**Oldsman.** You found that the networks that were legally established as a for-profit status were more likely to have cost savings and business expansion than were those receiving strictly public support. Isn't that what you would expect anyway?

**Thompson.** Everybody thinks they've rediscovered inter-firm collaboration, but that's been in existence for years in agriculture. Are you finding parallels? Second, you are reporting benefits from inter-firm collaboration, but doesn't that run counter to the American industrial tradition of inter-company competition? How is U.S. industry supposed to deal with your findings in light of this competitive tradition?

**Kingsley.** One woman said that if we would have implemented an inter-firm network 20 years ago we would have been thrown in jail.

**Thompson.** We have a set of rules that make it legally difficult to set up networks even though it may be appropriate to do so.

**Jarmin.** Another way to think about the issue of inter-firm collaboration is that one way to network is to buy up/merge with other companies. Maybe this is a poor-man's network.

**Kingsley.** These results show that there are positive benefits.

**Oldsman.** As a point in studies, there's a difference between statistical significance and policy significance.

Statistical significance doesn't say anything about the size of the relationship and whether or not we should care. You have to take care to call it statistical significance rather than just calling significance.

**Malecki.** It frequently is difficult to measure outcomes of center activities and projects. Many of these change firms' capabilities but have no immediate effect on firm performance. In addition, one of the more important changes in behavior concerns network behavior. Relatively few firms form local networks on their own. Those that do we can label *extroverts*. Only extrovert firms routinely seek out external information from such sources as trade shows, trade journals and other publications, Web sites, and new suppliers. Taken together, these information sources lead to more frequent product changes and new customers. This behavior could be among the characteristics of high-performing companies.

Concerning networks, some firms "the extroverts" naturally join networks. These extroverts also willingly answer surveys. Other firms "the introverts" need the gatekeeper role played by network coordinators and field agents. Larger firms have resources (people and time) to network, but many of their networks are of the tight supplier-customer (input-output) links, not local links with nearby firms.

Networks represent a long-term change in behavior. This behavior incorporates several elements:

- improved skills and know-how
- expected *future* increases in productivity and wages
- actual increases among firms that have been network members longer

It is interesting to note that networks in the 1992 NIST compilation by

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Gregg Lichtenstein *marketing* was the most common objective of networks. In the 1997 work by the Georgia Tech team, the most frequent objective was *information sharing*. In a sense, this is a downgrading of expectations. To share information is much easier to accomplish than demonstrable marketing effects.

Concerning Manufacturing Technology Center partners, to what extent do Centers play a gatekeeper role? The evidence is that there is a great deal of duplication of expertise: Centers are referring to partners and third parties the same sorts of projects in which they have in-house expertise. This may be important to do politically, but one must ask: Is it effective in improving small manufacturers? Is learning taking place in Centers in new areas of expertise? Is outsourcing increasing or decreasing over time?

The more successful networks -- and Centers -- marshal resources from many sources: public, private, and non-profit. This *gatekeeper* role is an important one and, to be effective, requires that continual learning be ongoing. The network coordinator and field agent serves as a link from outside (possibly global) sources of information and best practices to local firms and their needs. The gatekeeper role also involves links to state/regional/local support institutions (formal and informal). To some degree, a network and an MTC functions as an integrated knowledge network. Each can build local social capital and function as part of the regional technological infrastructure.