Good management, not just money, leads to innovative discoveries

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(PhysOrg.com) -- University scientists and engineers are more likely produce inventions and patents if they work in an environment where management supports and encourages interdisciplinary collaboration and commercialization, according to a new UC Davis study.

“What is the magic formula of innovation? Is it the genius research scientist or engineer working in solitary to devise a new technical discovery? Or, is innovation a reflection of how groups of researchers collaborate? Contrary to the stereotype of the individual innovator, our study showed evidence that the spark of innovation often happens when diverse groups of researchers are organized to collaborate across their disciplinary boundaries,” said Steven Currall, dean and professor at the UC Davis Graduate School of Management and the principal investigator on the study.

The study, “Inside Multi-Disciplinary Science and Engineering Research Centers: The Impact of Organization Climate on Invention Disclosures and Patents,” was published in the journal *Research Policy*.

The study was co-authored by Emily Hunter, an assistant professor of management and entrepreneurship at Baylor University's Hankamer School of Business, and Sara Jansen Perry, a professor at the University of Houston-Downtown, College of Business.

The authors found that much past research has focused on the availability of funding and its influence on innovation productivity, not

on organizational structure. They also found that “a good organizational climate is more readily influenced by management than by other environmental factors such as the availability of venture capital.”

The research looked at the organizational climates of 21 National Science Foundation-funded engineering research centers at universities around the country.

The study included surveys of 218 faculty, ERC leaders, industry liaison officers and postdoctoral researchers.

“The upshot is that, if research organizations want more innovation productivity, their leaders must use an organizational formula that emphasizes cross-boundary exchange and support for commercialization,” Currall said.

The study also found that the most productive centers were not from the most historically productive universities — suggesting that it isn’t just the presence of faculty with a track record of innovation that determines success, but rather the center’s organization and management. The authors defined a “productive” center or university based on patented discoveries and inventions.

“For instance, researchers working in organizations characterized by the exchange of information and ideas across traditional subject boundaries (such as chemistry and electrical engineering) produce greater numbers of new commercializable discoveries in the form of patents that can lead to new products. And, researchers are more likely to have the courage to take the first step in the commercialization process, creation of the initial invention, when they feel that their organization supports commercialization activities,” Currall said. “When the organization celebrates commercialization, researchers produce more inventions that can later lead to commercializable patents. “

More information: The study is available at www.sciencedirect.com/science/ … i/S0048733311001053/

Provided by UC Davis