



## How Corporate Venture Capital Investing Increases Innovation

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After the dot-com bubble burst about five years ago, corporate-sponsored venture capital funds jumped off that bandwagon in droves. Investing in startup technology companies -- thought to be a quick way to beef up the corporate bottom line and look technologically hip while doing so -- suddenly didn't seem like such a smart idea.

Managements as diverse as those at Boeing and Dell junked the concept. The reasons varied, says Mark G. Heesen, president of the Arlington, Va.-based National Venture Capital Association (NVCA). At Boeing, the unit fell victim to a wider corporate restructuring. At Dell, managers just didn't see enough of a positive impact on its bottom line. Such retrenchments caused hardly a blip on the corporate Richter scale. Unlike freestanding venture funds, some of which now manage billions of dollars in assets, corporate funds typically are small. "When a key person leaves, these funds often fall apart," Heesen says.



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So why bother? Because venture capital is an essential tool available to a corporation to increase its innovativeness, says Wharton management professor [Gary Dushnitsky](#). In his dissertation work, as well as three co-authored papers with Michael J. Lenox of the Fuqua School of Business at Duke University, Dushnitsky argues that corporate officials -- who once saw a quick windfall in financing outside technologies -- got it wrong then, and may be wrong now to recoil from making such investments.

In 2000, when corporate venture capital investing was at its peak, over 300 large corporations poured more than \$16 billion of venture money into small startup companies. That number had dropped to slightly over \$1 billion as of 2003, according to the NVCA.

"Because venture capital has fallen a little out of favor in the last five years, people might be a little skeptical about it," Dushnitsky said in an interview. But, he adds, "it is important to know that some of the leading corporations are very active, persistently, in good and bad times, in pursuing this course of action." It suggests that "there is some value to be gained" from such investments. In addition, as more and more new technologies come on the scene, large corporations recognize they no longer have a monopoly on the next big thing," Dushnitsky adds. "They need a tool to scan, identify, and leverage or harness entrepreneurial or innovative technologies" that are developed by others.

Corporate venture capital is one leg of a three-legged stool whose other two legs are a strong internal R&D capability and strong alliances with academic or government researchers.

Corporations that have stayed the course with venture investing -- DuPont, Johnson & Johnson, IBM and others -- tend to make equity investments in innovative startup companies with strategic rather than simply financial motives, and in time reap both strategic and financial benefits, Dushnitsky suggests, noting that "a strategically driven program exploits synergies between what I am doing and what they are doing." It's creating actual value that in turn is translated into superior financial performance.

### The Patent Test

Using the databases of hundreds of companies, the researchers compared firms that invested corporate venture capital and those that did not invest. They found that "the greater the amount of corporate venture capital invested, the greater the innovation rate of the investing company, measured either by the number of patents generated or by the citation-weighted patents output (i.e., weigh each patent by the number of citations it received from subsequent patent applications)," Dushnitsky says, adding that anecdotal evidence backs up that finding. He points to case studies of venture investments by Sony, Nortel and others. "Their relationships with portfolio companies have benefited them immensely."

In two of their papers -- "When Do Firms Undertake R&D Investing in New Ventures?" and "When Do Incumbents Learn from Entrepreneurial Ventures? Corporate Venture Capital and Investing Firm Innovation Rates" -- Dushnitsky and Lenox conclude that corporations which make venture investments to gain access to outside innovations tend also to have strong internal research and development capabilities. The two are "complements rather than substitutes vying for research dollars," the researchers write.

"We find that a well developed internal research capability may be necessary to effectively learn [from corporate venture capital] investment. For a firm to learn from the ventures it invests in, it must first possess sufficient absorptive capacity." In addition, much corporate venture capital also seems to go to "sectors that are characterized by weak patent effectiveness," the authors note.

Dushnitsky explains that entrepreneurial innovators with strong patent protections -- for instance in the pharmaceutical sector -- tend to be more open about publicly reporting their breakthroughs, confident that they can retain control of their innovations while they negotiate corporate deals.

Those with weaker intellectual property protections, often in the information technology sector, tend to hold their cards close to the vest, fearful their inventions may be easily copied if prematurely revealed to potential development partners. Corporate venture capital often is "the only mechanism to pierce this veil of secrecy" and obtain access to the innovation, Dushnitsky says.

## Technology Secrets

Over the years, many examples have arisen of disputes between entrepreneurs and their corporate suitors over alleged misappropriation of trade secrets during the process of negotiating a corporate investment or acquisition, according to Dushnitsky. He cites a litany of such disputes: Simple.com versus McAfee.com; CardioVention, now defunct, versus Medtronic; a Stanford University professor versus Rockwell International. "The logic is that in these environments, because you cannot protect your idea, more of the technology is likely to be kept secret," Dushnitsky says.

"Many mutually profitable investment relationships do not materialize because a corporation is not interested in investing unless entrepreneurs demonstrate their quality by upfront disclosing details about their inventions. But under certain conditions, entrepreneurs are wary of doing so. Disclosure can be prohibitively costly since the investor can exploit the information and imitate the invention, leaving the entrepreneur empty-handed," he writes in a paper titled, "Limitations to Inter-Organizational Knowledge Acquisition: The Paradox of Corporate Venture Capital."

So when is an investment relationship most probable? "Under those conditions that facilitate entrepreneurial disclosure, that is, when corporate venture capital is least likely to attempt imitation," Dushnitsky writes. Based on a matched sample of 258 entrepreneurial ventures and 74 corporate venture capitalists, he concludes that the probability of a relationship between the two parties "decreases if the products are potential substitutes and increases when the products of the two are complementary."

If the products are potential substitutes, "there are incentives for a corporate venture capitalist to behave opportunistically and copy the venture's novel technology," he writes. Clearly, the courtship between

entrepreneur and corporate suitor can be a delicate one, fraught with potential for misunderstanding.

### **Investment Orientation and Performance Implications**

In yet another paper, "When Does Venture Capital Investment Create Firm Value," Dushnitsky and Lenox "go beyond narrow financial returns and capture both the financial returns and the strategic benefits.

"We present evidence that corporate venture capital investment is associated with the creation of firm value. We find that this relationship is most salient in certain industries. In particular, the positive relationship between (corporate venture capital) and firm value is greatest within the devices and information technology sectors. Moreover, we present evidence that the contribution of corporate venture capital investment is strongest when it is focused on attaining a window on technology rather than purely a narrow return on investment," the researchers write.

"Firms that invest for strategic reasons are more likely to continue to invest and invest in larger amounts," they add. "One possibility is that because of this, strategically oriented firms are more likely to learn how to make good investments over time and that is what is driving our results." On the other hand, firms that go into the process with a wholly financial orientation -- a "buy low, sell high" mentality, Dushnitsky calls it -- tend not to benefit from such investments.

It's a finding with which the NVCA's Heesen wholeheartedly agrees. Heesen, who recently led a two-day conference of the association's corporate venture capital chapter, says companies that looked at entrepreneurial investments only as a way to make money quickly have gotten out of the game.

The post-bubble circumstances favor those with the stamina to invest strategically, he adds: "During the bubble, because of Wall Street's demands, corporations were concerned about quarter-over-quarter earnings numbers; research and development went out the window." But now these companies find there is little innovation in their internal pipelines, and that has brought the realization that "a corporate venture capital arm is not a bad thing to have, even if it loses money sometimes and may not fit exactly in the corporate structure."

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