



New Business

ENTREPRENEURIAL PURSUITS AT HARVARD BUSINESS SCHOOL

Venture Capital: Spurring Innovation and Growth

by Peter K. Jacobs

More than 2,000 publicly traded companies founded between 1972 and 2000 were financed by professional venture capital investors. In 2000, venture capital firms raised a record \$104.8 billion, up from \$3.1 billion in 1990 (according to Thomson Financial Venture Economics and the National Venture Capital Association). Clearly, these organizations represent one of the main engines driving innovation and entrepreneurship, especially in U.S. markets where the venture capital concept originated.

While many articles and books have covered aspects of this industry, few have tackled it in a more comprehensive and systematic manner. HBS professors Paul A. Gompers and Josh Lerner fill this gap with their new book, *The Money of Invention: How Venture Capital Creates New Wealth* (HBS Press). Based upon a dozen years of research in venture funding and entrepreneurial finance, *The Money of Invention* distills fundamental lessons that can benefit venture capitalists, entrepreneurs, and institutional investors—as well as corporate executives and governmental and university officials—all eager to capitalize on their respective innovative endeavors.

> The Venture Capital Model

In a recent conversation with *New Business*, the researchers discussed the basic techniques of the venture industry plus its evolution and future. "Venture capital firms realize that they make money by identifying promising innovations early, investing capital to build the venture, and aiding the entrepreneur with his or her business," says Gompers.

The venture capital model, the authors observe, employs a unique set of techniques to manage risk and nurture success. Unlike traditional lending institutions, venture capital firms specialize in start-up and growth companies and also develop a thorough understanding of specific industries. Venture firms play an active role in their investees' board of directors, providing oversight, strategic advice, and credibility to the company.

A sound venture capital investment strategy should utilize the following techniques:

- staged financing to correspond with milestones that mark a reduction in uncertainty,
- syndication of investment to gather more information and diversify risk,
- equity ownership and incentive compensation for senior management to link the interests of investors and the entrepreneur,
- covenants and restrictions in critical areas to limit potential conflicts.

VC Investment firms offer much more than money. Their specialized knowledge of target industries, active involvement in the companies they support, and strategic techniques that align their own and their investees' interests help ensure that promising companies allocate resources effectively and have the best chance for success.

> **Transplanting the VC Model**

The phenomenal success of many venture capital firms has caught the attention of managers of innovative projects in various established institutions. "With the recent growth in the VC industry," notes Gompers, "we've seen many efforts to 'transplant' the VC model to large corporations, to academic institutions, and even to governments." Faced with an ever-present need to fund ongoing research that generates new products, technologies, and services, these "emulators" have tried, with varying degrees of success, to put the VC model to work in their arenas.

Typically, a corporation will form an in-house venture fund (with varying levels of independence), which then funds outside companies or internal research projects. The fund's managers evaluate project proposals and allocate funding based on a variety of factors, including project cost and risk, fit with the firm's strategy, and potential return-on-investment. As with true venture capital firms, funding is often staged to reduce the odds of overinvesting in projects that later fail to meet expectations. In-house venture managers sometimes employ incentive schemes that are similar to compensation at venture-backed companies, yet are tailored to reflect their program's circumstances and strategies.

"Transplanting the VC model into the corporate environment is not a simple process," explains Lerner. "Success requires that management fully comprehend and embrace the VC model and be willing to drive significant change in critical areas, such as compensation systems and relations with investors and boards. Moreover, the company must stay focused on its core business and implement the model without seriously disrupting the parent organization."

Gompers and Lerner point to the model of Xerox Technology Ventures, which established a partnership agreement between the fund managers and the corporation that stipulated profit-sharing and governance by an internal oversight committee (much like a board of directors). In another instance, Intel Capital (Intel's strategic venture program) invested in firms focusing on hardware and software that would capitalize on Intel's next-generation semiconductor chip, which significantly reduced the payback time on the firm's microchip innovations. "In view of the challenges corporate venturing presents, it is remarkable how successful some firms have been at adopting it," says Lerner. "While the problems managers face in emulating the VC model are substantial, they are not insurmountable."

Gompers and Lerner identify several factors that frequently hinder success, including company politics and culture, lack of organizational cohesion, and limited credibility in the marketplace about the firm's ability to meet its venture objectives. Companies that attempt to innovate using the VC model must convince their public shareholders that the project offers strategic promise as well as financial return.

Exxon Enterprises exemplifies the difficulty of adopting the venture concept. This corporate venture group, created by the former oil giant, may well hold the record for billions of dollars lost, the researchers point out. The Exxon group periodically recreated itself throughout the 1960s, '70s, and '80s, shifting its focus from building materials made with petroleum by-products to high-tech spin-offs and personal computers. Clearly, Exxon's effort suffered grievously from its lack of focus and from straying too far from its petroleum industry base.

Seeking to capitalize on their own innovative ideas and breakthrough technologies, government and academic communities have also sought to adapt the VC model. Problems inherent in these typically large institutions—political conflicts, bureaucracy, and inflexibility—present unique challenges to the venture capital process. The mission of university researchers, for example, has traditionally been pure rather than applied research. Other major obstacles are the compensation systems and conflict-of-interest policies in

academia and government, which typically limit the ability of researchers to benefit financially from their discoveries.

Changing these and other embedded policies to accommodate the specialized nature of venture financing can be highly disruptive to these large, bureaucratic organizations. One key lesson, write Gompers and Lerner, is that public officials should be keenly aware of the environment in which they operate, seeking to rely as much as possible on independent venture groups—where these conflicts are not as prevalent—for financing spin-off companies. When a fund sponsored by a public or academic body does become necessary, remaining attuned to the more general investment environment is critical.

> Continuing Evolution

Gompers and Lerner see venture capital firms evolving much like the start-up companies they fund. "Until 1990 venture capital was like a cottage industry in which people commonly worked on a one-to-one basis," Gompers explains. "Then, with the late 1990s, came not only record inflows of capital, but also a trend toward systemization and the evolution of venture capital as a professional service industry."

Increasingly, notes Gompers, venture funds now seek to develop alternative ways to leverage the time of the partners. For instance, several groups have recruited teams that reflect a variety of disciplines. "While being an artisan will necessarily remain part of the industry, the trend toward becoming more systemized and professional will surely continue," he predicts. "This will help dampen the pronounced boom-and-bust cycles the industry has experienced relative to capital availability and the economy in general."

Fundraising has been impacted by the shift away from professionally managed pension funds to personally managed retirement investments, such as 401(k) plans. Rather than directing fundraising efforts to highly trained pension fund managers, venture capital firms will increasingly need to target individual investors who are less familiar with the nature and risks of venture investing.

The abrupt decline of the dot-com revolution will also alter the way venture groups evaluate and track the performance of the firms in which they invest, state Gompers and Lerner. Venture fund managers are already paying more attention to business fundamentals and long-term profit potential than they did during the late 1990s heyday. "I think the newfound willingness of venture fund managers to share project participation with other types of investors who can bring different strengths to bear will continue to grow," adds Lerner. "Their contacts and specific industry expertise, for instance, can add significant value to a given project."

> From the Entrepreneurial Viewpoint

These changes suggest that while capital availability will become less volatile, entrepreneurs will need to devote increased attention to business basics and to their companies' long-term strategies and prospects. Whether seeking funds, reporting performance, or presenting revised strategies, their interactions with venture fund managers will be more systematic and will increasingly require an ability to work effectively with project teams rather than individual venture partners.

For managers intent on applying the venture model to their existing organizations, *The Money of Invention* provides fresh insight and guidance into the forces that underlie its failures and successes. Better understanding of how the venture industry functions is essential, the authors say, for practitioners, innovators, and organization managers who would emulate its workings.

The pressure to innovate in corporate, academic, and nonprofit settings will continue to push managers to harness the power of the time-tested venture capital model. Venture funding may be an imperfect approach, yet it has fueled noteworthy innovation and wealth creation in the U.S. economy for the past 30 years. As Gompers and Lerner promise, "The roller-coaster ride is by no means over."

Peter K. Jacobs is a business writer based in Wellesley, MA.