

Finding Money for Innovation: Develop Those People Skills

Innovations typically involve trial, error and outright failure before turning into successful products or services. Thomas Edison, for example, conducted approximately 10,000 failed experiments before perfecting the incandescent light bulb. For decades, leading businesses have willingly shouldered the expense and the risk of innovating as the price of staying ahead of competitors.

But innovating has become a lot tougher lately, according to a panel of technology experts who recently spoke at the University of Pennsylvania's Executive Master's in Technology Management program. With R&D budgets shrinking and markets retrenching in a worldwide economic crisis, the panelists noted, technologists will need more than lab expertise to convince their employers to keep the research funding spigots open.

Indeed, the ability to communicate well and other "soft skills" are just as important as technological expertise when it comes to selling new ideas to investors or senior management, suggested several members of the panel, which was titled "Street-Smart Innovation to Align Emerging Technology and Business." In addition, future scientists, researchers and program managers should focus on aligning innovative projects with company goals. As panelist Nicholas D. Evans, vice president of the innovation division at Unisys, pointed out, it's much easier to justify budgets for speculative projects that show an obvious commercial benefit to the parent company.

That lesson became painfully obvious this past summer to employees of the storied Bell Labs research group, based in northern New Jersey. Alcatel-Lucent, owner of Bell Labs, all but gutted much of the non-commercial "basic research" performed by the lab. The product of a rocky 2006 merger, struggling Alcatel-Lucent sought to align Bell Labs' operations more closely with the parent's commercial interests in wireless, optics, networking and computer science.

So, how do organizational entrepreneurs keep innovation alive in companies looking to slash costs? And how do start-ups and growth companies attract investors when the rest of the economy is melting? That's another place where those soft skills come in handy. Several of the panelists suggested that while technical people are generally not known for soft skills, those individuals who desire funding to continue their work would do well to acquire them.

Anthony P. Green, a vice president with first-round funding group Ben Franklin Technology Partners, said he frequently sees entrepreneurs stumble because they lack such skills. All too often, entrepreneurs come across as rude, dismissive and disrespectful to audiences of potential investors, thereby "infuriating the investment

community." Panelist Eric F. Bernstein, a laser surgeon, dermatologist and technology entrepreneur, echoed that point. "Business is all about relationships. They need to like your idea, but they also need to like you."

Suzanne Taylor, portfolio director of corporate operations for Unisys, pointed out that budget handlers are also more inclined to favor innovation if it can be shown to cut costs. Innovation department heads must become adept at "making the case for maximizing productivity and reducing waste," Taylor said. This requires excellent communication skills, she added, including the fine art of schmoozing. And the higher up the case is made, the better for the innovator, added Sanjoy Ray, director of global application engineering for pharmaceutical giant Merck. "Executive sponsorship is very powerful. It provides 'air cover.'"

From Nanotech to Alternative Energy

The panelists agreed that amid the ruins of the current economy lie vast opportunities. The question is: Where?

Bernstein, who is involved as an investor in four companies, said a huge opportunity exists in digitizing and networking medical information. Medicine is a final frontier for information technology as paper records contribute to the escalating costs and delays of healthcare. Green also sees possibilities in nanotechnology, which involves engineering at the atomic level. Some products have already come to market, but the technology has yet to reach its commercial promise. Bioethicists have noted that nanotech presents a host of as-yet unanswered questions, including the issue of what it will mean to be human if, as predicted, "nanobots" are developed to attack disease and enhance performance. "If [nanotechnology] is really as disruptive as biotech was, it will make a big difference," said Green, a self-described "veteran of the biotech wars."

Alternative energy, which had been gaining steam in 2008, has been undermined as an investment because the global slowdown has resulted in lower prices for traditional fossil fuels, the panelists said. That makes alternative energy projects tougher to justify to jittery lenders, who bank on the projects being cost competitive with fuels such as oil and natural gas. "The ills of Western banks mean, inevitably, that the supply of debt finance for wind farms, solar parks, biofuel plants and the like will be less plentiful, and more expensive, in the months ahead than it has been in the last two years," notes a recent report by New Energy Finance, a research firm that covers the deal-making environment for renewable energy projects. On the other hand, President-elect Barack Obama has pledged to devote much of his economic stimulus plan to investments in green technologies.

But in times like these, is there any money for enterprising business people with superb ideas in these fields? Are angels and venture capitalists still in the game? Green conceded that "it's brutal" for those seeking early stage, non-seed funding. "No one is funding at the \$1 million level," he said. The problem surfacing right now is that full-blown venture capital groups want to deal only with requests in the \$6 million to \$8 million range. "Not everybody needs or wants that" amount to get a business to the next stage, he said.

Where the Toys Are

Jim Senior, a speechwriter for Unisys who was the panel moderator, noted that cost-conscious executives might want to carefully consider any cuts they make to innovation departments if they are interested in retaining top talent. Many brilliant and highly marketable technologists will remain in an otherwise unremarkable place if the company has the financial muscle to invest capital in labs and equipment. Senior recounted the story of one researcher who was asked why he stayed at a large bureaucratic company. His response: "Because you have all the toys."

According to Wharton marketing professor George S. Day, many well-known companies remain committed to innovation in spite of downturns and earnings myopia. "There are some companies that see beyond that and continuously invest in innovation and growth," said Day, co-director of Wharton's Mack Center for Technological Innovation. "The best known ones are Samsung, American Express, Nokia. These companies are not cutting back on innovation.... We're not just talking about products and services, but about customer experience." For example, American Express last year invested \$50 million in its "Chairman's Innovation Fund," money that is reserved for financing employee ideas to improve the business long-term.

"Since true innovation entails uncertainty, as opposed to quantifiable risk, there will always be an element of vision, entrepreneurship and faith involved," noted Mack Center research director Paul J.H. Schoemaker. "The C-suite recognizes that business is about taking risks and that not everything can be analytically proved or supported when venturing into the unknown. Too often, companies focus on incremental innovation -- since it is more predictable and less disruptive."

What's more, Schoemaker said, a difficult economic climate is an ideal time to diagnose defects that may have gone unnoticed when the economy was stronger. "Tough times present an opportunity to assess systemic weakness in one's industry, company and leadership team," said Schoemaker, who is also an adjunct professor of marketing at Wharton. "Just think of a sport like golf or tennis. When conditions are tough, the weaknesses in your game will show more clearly." His advice: "Use the bad times to conduct a deep self-audit."

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