Concealing your innovation efforts to keep competitors in the dark?

Your best ideas may never see the light of day.

Breaking Out of the Innovation Box
by John D. Wolpert

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In the late-1990s economic boom, corporations embarked on an innovation binge—enthusiastically transforming hot ideas and technologies into commercial opportunities. But when the economy cooled, they quickly abandoned many of these efforts.

Most companies ride this boom-and-bust cycle of innovation investment. For a time, the cash flows. Then, as the economy sours or companies rethink their priorities, the taps go dry.

No business should ignore market changes, but when companies slash innovation budgets, weak and strong projects get abandoned. Promising initiatives wither just before they might have borne fruit. Result? Companies are caught flat-footed when the competitive landscape tilts.

With uncertain and distant payoffs, innovation always entails risk. But must investment in innovation be so erratic? And must companies cloak their initiatives in secrecy, to protect them from competitors?

The answer to both questions is: No. To shield their innovation efforts from both the ax of short-term cost reduction and the faddishness born of easy money, companies can take a new, counterintuitive approach: making innovation an open part of the ongoing commerce among businesses.

How? By exchanging insights, technologies, and capabilities with other companies early in the innovation process. For example, your company collaborates with another to implement a promising idea, or pools investments with several firms to pursue a high-potential opportunity.

The question becomes: How to do this without giving competitors the advantage?

**THE IDEA AT WORK**

**INNOVATION GO-BETWEENS**

The answer lies in a familiar—and central—element of commerce: trusted, independent intermediaries who facilitate exchange of sensitive information among companies, without revealing the principals’ identities or motives.

Positioned at the intersection of many companies and industries, intermediaries can easily visualize new opportunities synthesized from several companies’ insights and technologies—opportunities that might never occur to the individual companies.

Examples of these innovation “headhunters” abound—lawyers and venture capitalists who learn of new inventions from various companies, investment bankers who see new applications for technologies developed by companies or government agencies.

But the most promising pool of potential intermediaries may be the expanding pool of baby-boomer retirees. With their deep expertise in industries and technologies and the trust of their former companies, these retired corporate executives, scientists, and engineers make ideal innovation headhunters. By sharing information with their clients and each other, they can position themselves squarely in the flow of ideas.

**INNOVATION HEADHUNTING AT WORK**

Here’s how innovation “headhunting” might work:

- Through an annual fee, your company hires a group of intermediaries and briefs them on your internal innovation programs.
- Bound by nondisclosure agreements, the agents share information with other agents representing other companies.
- When it appears that collaboration would be mutually beneficial, the agents signal your company and their other clients and help structure the engagement terms.

Through this relatively safe, controlled network, intercompany innovation relationships can proliferate.

**EXAMPLE:**

Business-development consultancy ISIS International helped a U.S. oil company’s chemical division find commercial applications for a new molecule it had developed. Convening a brainstorming “summit” with several contacts in waste treatment, cosmetics, and other industries, ISIS uncovered eleven opportunities—with potential revenues of $150 million.
As long as companies manage innovation as a secretive process, investment will be erratic and results disappointing. It’s time for a new, more open approach.
Business School professor Henry Chesbrough has identified a similar pattern in the 1960s.

Of course, no business initiative should be immune to changes in market conditions or company strategies. Corporate innovation programs should be subject to careful, hard-nosed evaluation, and those that don’t promise adequate returns should be curtailed or refocused. But that is not what is going on here. Rather, the way corporations invest in innovation is fundamentally unreliable. When innovation budgets are slashed, strong projects are abandoned along with the weak. The consequences can be devastating. Promising initiatives are cut off just when they are about to bear fruit. Highly touted training programs are discontinued with little explanation, stirring employee cynicism. Expensive labs are closed, and talented researchers and designers are reassigned or laid off. Partnership agreements costing millions in legal fees are thrown away. Worst of all, the perceived failure of the investments often creates organizational skepticism about and resistance to future innovation initiatives. Consequently, when disruptive changes in the competitive landscape come, companies are caught flat-footed.

Innovation is always a risky pursuit, with an uncertain and often distant payoff. But must that fact doom it to erratic investment? Or can innovation become a staple corporate priority as, for example, quality has become? My belief is that stability can be brought to corporate innovation and that the result will be much greater strategic gains and much stronger returns on investment. But sustainable innovation requires an entirely new approach. Instead of being a largely isolated process—carried out often with considerable secrecy—innovation needs to become more open. Initiatives must gain access to and leverage from the insights, capabilities, and support of other companies without compromising legitimate corporate secrets. As counterintuitive as this may sound, innovation must become part of the ongoing commerce that takes place among companies. Only then will it be protected from both the ax of short-term cost reduction and the faddishness born of easy money.

Trapped Inside
First, let me explain what I mean by “innovation.” I’m not talking about processes for making improvements to existing products and services. And I’m not talking about purely technical invention. Innovation, as I use the term, means pursuing radical new business opportunities, exploiting new or potentially disruptive technologies, and introducing change into the core concept of your business. It’s those efforts that businesses have found hard to sustain, even though it is now widely acknowledged that they have become increasingly critical to companies’ long-term viability. In fact, nearly 50% of U.S. economic growth at the end of the 1990s came from lines of business that didn’t exist a decade before, as a 1999 study in The Economist showed.

Successful innovation requires what the authors of Radical Innovation have called “exploration competencies”—the ability to harvest ideas and expertise from a wide array of sources. For a company, that means bringing in insights and know-how not just from outside parties but from other businesses. The need for external perspectives seems almost self-evident: If a company stays locked inside its own four walls, how will it be able to uncover and exploit opportunities outside its existing businesses or beyond its current technical or operational capabilities? Yet perhaps even more self-evident to many companies is the need to lock in their innovation initiatives to protect them from competitors.

This urge to keep innovation inside is reinforced by both traditional and current thinking on the subject. If you look at the examples of innovation cited in books and articles, you’ll find that almost all of them describe the exploits of a group of employees within a single company—how they stumble on a new opportunity, struggle to overcome company politics and other internal impediments, and ultimately either succeed or fail to commer-

A Network of Intermediaries
Intermediaries could facilitate the exchange of information about innovation among companies while keeping their secrets. If company A, for instance, needs outside capabilities to commercialize a technology, it could ask its intermediary to find it a partner. The intermediary would share the information with other intermediaries in its search for an appropriate collaborator—like company B. In the same way, innovation intermediaries can help company C find the resources it needs to bring one of its new technologies to market by allying with companies D and E. The intermediaries can be trusted to maintain confidentiality because if they ever violated the terms of an arrangement no company would hire them again.

John D. Wolpert leads IBM’s Extreme Blue, an incubator for talent, technology, and business innovation in Austin, Texas.
cialize their discovery. Most theories of innovation are similarly introspective. Gifford Pinchot III coined the term “intrapreneuring” in the 1970s; the very name implies an internal focus. Rensselaer Polytechnic’s Severino Center for Technological Entrepreneurship recommends building internal innovation hubs. Many management gurus suggest that innovation be thought of as a core competency—a distinctive capability that a company nurtures within itself and protects from outside competitors. Even the concept of “knowledge brokering,” which sounds like it should involve collaboration between companies and across industries, is most often described in terms of individuals and groups working within one company.

But organizing innovation as a purely internal initiative pretty much guarantees that cyclical pressures will lead executives to cut back or discontinue funding. No matter how loudly a CEO proclaims the need to embed innovation and creativity in the corporate culture, the fact is that such initiatives are cut when times get tough or priorities change.

Typical is the experience of a large telecom company’s ill-fated innovation program, which was called the Opportunity Discovery Department (ODD). Launched in 1995, its mission was to uncover promising ideas in the company, spread insights and expertise across the organization, and translate technologies from R&D labs into commercial opportunities. The ODD team received generous funding and considerable management support. Lab directors, and even the CEO himself, repeatedly encouraged managers and employees to collaborate with the group. Nevertheless, the team lost momentum. By 1999, the ODD had ceased operations.

Many internal innovation initiatives have shared the ODD’s fate. They last, on average, about three or four years. In most cases, that is not enough time to discover strong new business ideas and refine, test, launch, and nurture them to success. A study of innovation at Xerox that Chesbrough did showed that over a 35-year period its most successful spin-offs took an average of 7.5 years to generate an acceptable return on investment. That didn’t include the time spent researching and developing the underlying technologies. However, the innovation programs that generated those spin-offs survived an average of only four years before they were shut down and replaced by new ones. Often, those initiatives were terminated even though the spin-offs they had generated had notched up substantial financial returns. As one Xerox executive explains: “We are a $20 billion company. To be financially interesting to us, an initiative must reach at least $100 million in revenues within three years.” That argument, which will sound familiar to many executives, explains why large companies fail to sustain even lucrative innovation programs.

There’s another problem with inward-looking innovation initiatives: They often fail to capitalize on viable ideas because the ideas don’t fit with the company’s strategy or capabilities. No company is smart enough to know what to do with every new opportunity it finds, and no company has enough resources to pursue all the opportunities it might execute. Internal initiatives routinely leave a trail of orphans—promising ideas that have no natural home within the company. If the number of orphans produced becomes too large relative to the successes—and it almost always does at large companies—participants’ interest in the initiative falls.

Spinning out orphans as separate entities is possible but, despite the hype surrounding spin-offs, it rarely happens. Few companies have the patience or skills to do them well and, in any case, companies routinely kill spin-off proposals because they fear losing the intellectual property to outsiders. In the past, some orphans escaped corporate labs, falling into the hands of others both eager and able to capitalize on them. In the information technology business, for example, breakthrough technologies like Ethernet, the mouse, and the graphical user interface were commercialized by companies that did not develop them. But with aggressive patenting practices, that will happen much less frequently in the future. As Bell Labs’ new-ventures chief, Thomas Uhlman, famously said in 1999, “No more Intels are allowed to escape.” Unfortunately, that means that as long as innovation is trapped inside individual companies, many promising technologies and business ideas will simply die without ever being exploited.

Innovation as Commerce

No company is, of course, hermetically sealed. Outside perspectives and competencies flow into and out of organizations through many routes: partnerships with universities, alliances and acquisitions, external venture investments, recruiting and hiring, customers and suppliers, and the relationships and curiosity of individual employees. These sources of external influence are valuable and important. It could be argued, in fact, that they have played pivotal roles in all instances of corporate innovation.

But they’re not enough. Their informality, haphazardness, and unpredictability make them unreliable foundations for sustained innovation. New hires, for instance, may come into a company with brilliant, radical ideas, but they usually find it difficult if not impossible to promote those ideas in an alien, and often resistant, culture. Academic cooperation usually centers on basic science—one might argue that looking for new business ideas in academia is like fishing for marlin in a trout
Breaking Out of the Innovation Box

No company is smart enough to know what to do with every new opportunity it finds, and no company has enough resources to pursue all the opportunities it might execute.

In an ideal world, where there is no fear of competitors, here’s how it would work: If company A develops a great idea that it can’t commercialize, it can more efficiently shift it to company B, which has the right skills, particularly if the two businesses strike a relationship at a very early stage of idea development. If company C lacks two particular capabilities needed to bring a technology to market, it can form a partnership with companies D and E to gain the required resources. If companies F, G, and H share a common interest in a certain business opportunity but lack the cash or strategic focus to pursue it independently, they can pool their investments. When innovation becomes part of commerce, money and attention flow naturally to where they’re needed when they’re needed.

The case of IBM’s alphaWorks, which I oversaw for two years in the late 1990s, shows the power of open innovation. In early 1996, IBM’s Internet Division realized that the company had developed many promising software programs in research that had yet to be commercialized. As an experiment, the division created a public Web site called alphaWorks on which it posted the programs, hoping that outside companies and developers would contribute valuable ideas about bringing them to market. Anyone could download the programs with a 90-day evaluation license from the company. As word spread that IBM was allowing first-cut versions of its research technology to be used for free, hundreds of thousands of early adopters, innovators, and entrepreneurs came to the site to download the software. Many of these users were technically savvy developers and business-people who had the skills to see the opportunities in that raw code.

One IBM researcher, who had been trying for years to find a compelling use for his program, received ideas from a developer at another company through alphaWorks. That helped him take his research in a new direction, eventually leading to the development of a critical component for the multibillion-dollar business integration-systems market. When thousands of people began to download that program, an IBM product group quickly decided to develop and release a full-fledged version. Within eight weeks, the once-ignored program had become a key IBM product. Without this kind of early external support, the researcher’s work might still be waiting to go to market today.

Launched six years ago, alphaWorks is still a staple of IBM’s innovation agenda. Its productivity is high: About 40% of the technologies on the site make it to market as new offerings, new features in existing products, or new technical standards. Unlike other innovative programs that die after the original champion leaves, the group has survived several management changes and divisional reorganizations. Indeed, it would be hard to kill alphaWorks because so many people in IBM rely on it to do their jobs, and nobody would want to sever connections to this large, influential, and involved community. It remains the best way for many of IBM’s engineers to get recognition, feedback, and support for their ideas. It also has the attention of IBM’s marketing people, who were initially stunned to find current and potential customers asking them when alphaWorks technologies would become commercially available. Most of IBM’s strategic software initiatives since 1996 have started on alphaWorks.

Why don’t competitors simply help themselves to these ideas? For one thing, patents and licenses are easy to enforce. Putting the ideas on a popular Web site (often with significant press coverage) means that everyone knows where they came from. Thanks to download logs and registration, anyone foolish enough to download a technol-
ogy and then try to bring something similar to market would be caught red-handed in violation of the license and the patent.

IBM's alphaWorks – and similar initiatives like Xerox's new alphaAvenue – have limited applicability, of course. Not every business innovation benefits from public exposure as much as software development does. But they clearly show how a successful innovation marketplace that crosses the border of the firm perpetuates itself, gaining increasing attention and support as it delivers real economic benefits to many different participants inside and outside the company. The broader question is: How do you break down the barriers to sharing information across companies so you can create more generalized sustainable innovation markets without giving your competitors an advantage?

A New Kind of Go-Between

The answer, I believe, lies in a practice that has long been a central element in commerce: the use of independent intermediaries to facilitate the exchange of sensitive information among companies. Since the Middle Ages, businesspeople have drawn on trusted middlemen to share confidential information without revealing the principals' identities or motives or otherwise compromising their interests. Today, businesses continue to use intermediaries for many kinds of transactions. Executive search firms, for instance, play a crucial role in recruiting top managers. They allow job seekers to remain anonymous during the early stages of a search, and they protect businesses from disclosing their hiring plans to rivals.

In a similar way, intermediaries could facilitate the exchange of innovation information while protecting companies from divulging their interests and plans to competitors. They could become, in effect, innovation headhunters. A company might, to take a simple example, entrust an intermediary with the details of a particular technology it has developed as well as its need for outside capabilities to commercialize it. The intermediary would then share the information with other intermediaries in the hope of finding appropriate partners. At no point – until a formal disclosure agreement is forged – would any of the information be shared with the companies the intermediaries represent. The intermediaries could be trusted to maintain confidentiality because it is simply in their business interest: If they ever violate the terms of an arrangement, no company would hire them again.

Using intermediaries for innovation is not without precedent in U.S. business. In their book *Information Markets: What Businesses Can Learn from Financial Innovation*, William J. Wilhelm, Jr., and Joseph D. Downing describe how intermediaries spurred innovation in financial services in the early part of the twentieth century. The intermediaries, including bankers such as J.P. Morgan, assisted in creating markets for financial information. They used personal relationships to gather and share information discreetly with people in their network who could help exploit a new opportunity or a new way of handling financial transactions. “Innovation flourished,” the authors write, “in the context of close relationships and powerful intermediaries that tempered competition but protected easily copied ideas and products. This protection encouraged financial innovation by more nearly ensuring a fair return on investment in intellectual property.”

Even today, a number of individuals and organizations play intermediary roles in facilitating innovation. Management consultancies like Accenture and Cap Gemini Ernst & Young operate innovation labs, where clients can share ideas and discuss technological advances and other new research. Idea, the design firm, often creates new products by mixing together the ideas and technologies of different clients. As a business development consultancy, ISIS International has for more than 20 years acted as an intermediary to cross-fertilize business opportunities for its clients.

ISIS, for example, recently helped the chemical division of a major U.S. oil company find commercial applications for a new molecule it had developed. Although the molecule seemed promising, its potential applications were not immediately obvious to the division's R&D staff. They hired ISIS to search outside the company for possibilities. ISIS convened a brainstorming summit with 12 of its contacts in industries ranging from waste treatment and building materials to cosmetics and household-cleaning products. The panel quickly identified 11 business opportunities for the molecule, with potential revenues of $150 million. One of the companies represented on the panel went on to pursue a joint project with the oil company and introduced a new consumer product based on the molecule. Without the catalytic role ISIS played, the project may have been killed before it had the chance to be successful.

Unfortunately, most consulting firms consider sharing perspectives and competencies among clients to be taboo. Consultants, therefore, are unlikely to be a major source of innovation intermediaries. But there are plenty
of other players operating in and around the innovation process who could function as intermediaries. Lawyers and venture capitalists, for instance, often learn about best practices, ideas for new inventions, and new ways of doing business from competing and noncompeting companies. Trade show organizers and trade association representatives frequently conduct high-level meetings between potential buyers, suppliers, and partners, and identify opportunities for synergy within and across industries. Investment bankers are often called upon to find new applications for technologies developed by companies or government agencies.

But perhaps the most promising pool of potential intermediaries is the rapidly growing population of baby boomer retirees who have deep expertise in particular industries and technologies, hold the trust of the companies they worked for, and don’t want to spend all their time playing golf. With the right training in such disciplines as knowledge brokering, business development, and law, these former corporate executives, scientists, and engineers would make ideal agents. And by using the Internet to communicate and share information with their clients and one another, they could position themselves in the idea flow without abandoning their other retirement pursuits.

Ultimately, I believe we will see the emergence of formal networks, perhaps even companies of such agents. Businesses would pay an annual fee to hire a group of intermediaries with the appropriate backgrounds and contacts, briefing them about their internal innovation programs. Bound by nondisclosure agreements, the agents would share information with other agents representing other companies. The agents would signal their clients when they thought sharing data would be worthwhile, and they would help structure the terms of the engagement. Whenever it was mutually beneficial, intercompany innovation relationships would form early and often through this relatively safe, controlled network. Sitting at the intersection of many companies and industries, a network of innovation intermediaries would be in a unique position to visualize new opportunities synthesized from insights and technologies provided by several companies—ideas that might never occur to companies working on innovation programs on their own. (See the exhibit “A Network of Intermediaries.”)

The final shape of such intermediation networks is impossible to predict. In fact, other means of collaboration may develop. We may, for instance, see the emergence of new Web services that automate some of the basic information exchange essential to creative partnerships. Or we may see companies offer data-mining services that generate new business ideas by analyzing information collected from several companies at once without violating privacy or exposing secrets. What’s certain is that, in an increasingly complex world, the biggest growth opportunities will come more often at the intersection of multiple companies than from single visionaries acting on their own. It’s important now that companies break out of their innovation boxes and find ways to link their innovation efforts. In the years ahead, the greatest corporate innovation may arise in the innovation process itself.


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Whereas “Breaking Out of the Innovation Box” focuses on the early stages of the innovation process, and emphasizes ways to close gaps in resources and capabilities through innovation “headhunting,” Leifer et al. broaden the lens to examine the entire innovation process. They analyze how companies such as General Electric, IBM, Nortel, DuPont, and Texas Instruments explore entirely new lines of business within their established organizations, not off in secluded skunkworks.

According to these authors, companies encounter seven managerial challenges in creating and sustaining innovation:

1) Dealing with radical ideas in the “fuzzy front end,”
2) developing new project-management models,
3) learning about unfamiliar markets,
4) working through business-model uncertainty,
5) bridging resource and competency gaps,
6) managing the transition from radical project to operating status,
7) engaging individual initiative.

The authors present a comprehensive, interdisciplinary approach to mastering each of these challenges, from conceptualization of viable ideas to commercialization of radical innovations.


Wilhelm and Downing examine the role of innovation intermediaries in the particular context of financial markets. As the authors explain, these markets are experiencing unprecedented reorganization, deregulation, and consolidation—thanks to the interplay among human capital, technological innovation, and information-intensive products. By examining how information exchange occurs in financial markets, the authors draw lessons that will prove valuable for managers in other information-rich businesses, including health care, law, entertainment, and publishing.

The book pays special attention to the disruptive impact of technological advances on the delicate balance between innovators’ incentives for discovery (profiting from ideas) and the interests of society at large. Intermediaries help resolve the resulting tensions according to long-established economic rules and experience. They also play a central role in the enforcement of intellectual property rights and the identification of new opportunities that organizations can exploit to create value and fuel innovation.

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