 Innovation

A little help from their friends

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Executives are finding that some of the best new ideas can be developed through partnerships with organizations outside their companies. But to achieve real value, they need to create innovation channels appropriate to their own companies' needs and manage the process holistically by using their overall innovation strategy.

■ Well over a century ago, American essayist Ralph Waldo Emerson famously surmised that “If a man can make a better mousetrap . . . though he builds his house in the woods, the world will make a beaten path to his door.” Emerson assumed two things, of course—that innovation was something done in-house (literally), and that the innovator and the merchant were one and the same. But today, companies are increasingly challenging these durable assumptions.

Don’t get us wrong. Innovation in products, services and processes is as much—or more—a key to long-term growth and competitive success as it ever was. But it is becoming less and less clear to executives just how to turn investment in innovation—or an innovation itself—into the economic returns and eager customers that Emerson’s aphorism implies.

In search of value

Despite increased spending on research and development in the automotive, energy and pharmaceuticals industries, for example, US Patent and Trademark Office data shows that large companies in those industries still face declining rates of innovation. And in many other industries—where, judging by the number of US patent grants issued to organizations around the world, there have been dramatic increases in the amount of innovation—Accenture has found that customers are generally dissatisfied with the level of innovativeness of new products and services.

In their frustration, many executives are looking for innovation outside their companies—through standing customer panels and university research, for example, as well as through strategic partnerships with organizations that include private laboratories and even competitors.

However, a recent Accenture study of 40 executives in five broad industry categories (pharmaceuticals, retail, high tech/electronics, automotive, and oil and chemicals) shows that—at least at this stage—much of the thinking behind what is often referred to as sourcing innovation, as well as the practice itself, still needs significant refinement.

In particular, executives are finding that their companies often do not get all the value they could from going to external sources for innovation. Why? Because they choose partners in an ad hoc manner and rely on local management skills to ensure that projects deliver the promised benefits. And these companies often focus too narrowly on products when they think about innovation and hence source innovation on a case-by-case basis. Therefore, it is difficult for them to derive any broad, repeatable benefit from such innovation—for example, knowledge of how one transaction relates to transactions in other phases of the innovation chain.

By contrast, leading companies approach innovation strategically: They create innovation channels appropriate to their needs, which leads to longer-term, well-managed relationships with external sources. And they manage the process holistically, working with outside sources in a way that is driven by their overall innovation strategy. These companies will achieve significantly greater value from sourcing innovation than they would by adopting a purely transactional approach. Among strategic partners, Accenture is uniquely positioned to deliver this value through innovative solutions (see page 20).

Companies target several benefits by sourcing innovation externally. For

instance, they seek to gain quick access to outside expertise and extend the range of products and services they offer in ways that previously were not possible. They often can achieve quality results more quickly and efficiently by working with outside organizations. And external sourcing can even be an effective way to stimulate internal innovation.

But it is vital that companies also weigh the costs and risks associated with turning to outside sources for innovation—some of which are hidden. The most prominent of these hinge on *relationships* and *measurement*.

Since innovation relies on a complex network of internal and external relationships, relying on external partners sometimes results in the unintended loss of knowledge. For example, by outsourcing the design and manufacture of the electrical systems for its automobiles, one major car manufacturer surrendered its grasp of the detailed knowledge this painstaking work entailed. Without that knowledge, the carmaker lacked an in-depth understanding and appreciation of the complex interactions within those systems.

Executives also can be caught unawares as new external relationships allow hard-won competencies to atrophy. One electronics company found that changing its role from a manufacturer (that is, manufacturing products from components) to an assembler (that is, manufacturing products from subcontracted subassemblies) made it uncomfortably reliant on subcontractors for innovation. When the company's business model changed, it lost the capability to participate in and monitor critical subassembly-level innovations.

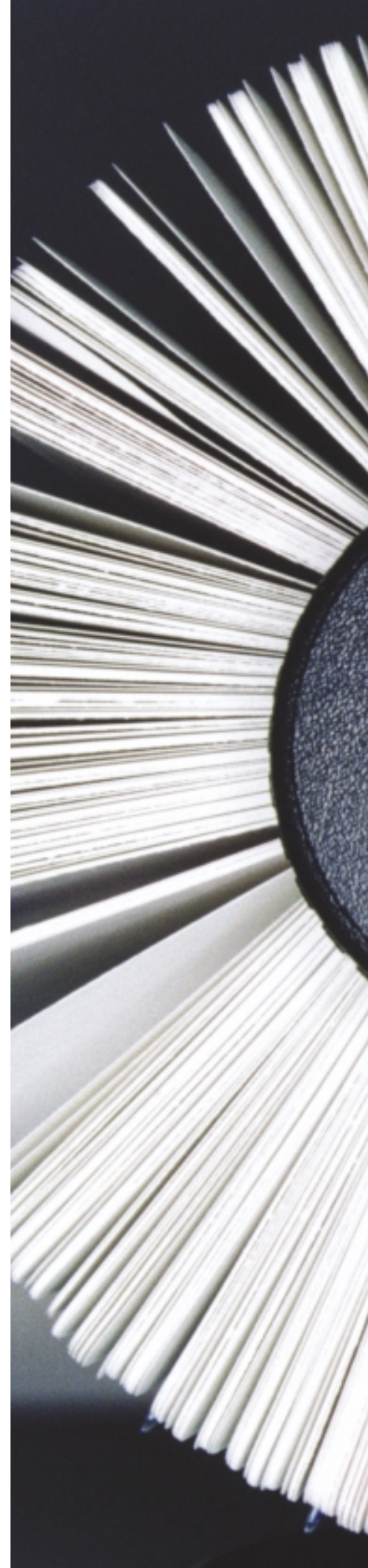
Nurturing any strategic relationship takes management time and attention. One leading high-technology firm relies on universities as a source of cutting-edge intelligence and research. However, to take advantage of these innovations, the company's management must do more than spend time with the academics. It must also act as an advocate internally to encourage its own organization to make use of the ideas. Creating a culture in which external contributions are accepted, let alone welcomed, continues to be problematic in many companies.

Another risk relates to measurement—or lack of it. Most companies do not track the proportion of innovation that comes from external sources, nor do they measure the performance of their external innovation suppliers.

About half of the companies in our study assert they measure their own organization's innovativeness in some way—most often by the percentage of sales that come from products introduced in the past several years. However, no company in the study compares the performance of internally and externally sourced innovations. As a result, many executives lack critical information about where and how—or, in some cases, even if—externally sourced innovation is paying off.

Channels, not sources

These risks and costs underscore the need to manage external innovation sourcing through an explicit strategy. The companies in our study illustrated two stages of progress toward this goal. First, they developed sourcing channels rather than ad hoc portfolios of independent sources. Second, they managed innovation holistically by using their company's overall innova-



To institutionalize innovation channels throughout the organization, companies manage innovation in a way that invites external opportunities.

tion strategy (the role innovation plays in the company's value-creating agenda) to shape a supporting innovation sourcing strategy.

Just as experienced marketers reach their end customers through specific distribution channels—rather than through an uncoordinated collection of resellers and outlets—more sophisticated innovators set up sourcing channels to meet particular business needs. They establish goals and objectives across the innovation chain—the series of value-adding processes that reach from discovery through development to commercialization. Then they develop external innovation channels, based on articulated sourcing principles, to reach their goals.

In the United States, Los Alamos National Laboratory, which is operated by the University of California for the National Nuclear Security Administration of the Department of Energy, partners with private-sector firms to develop technologies. In the past, Los Alamos' partnerships often started opportunistically—for

example, when researchers met at conferences. More recently, the organization has established a strategic partnering program. This involves recruiting five or six of the "right" partners—firms with a compatible technology interest and need—and establishing processes for managing the relationships effectively.

As Donna Smith, division leader for industrial business development at Los Alamos, explains: "We assign one of our seasoned researchers to live in the partner firm for two years. The individual's job is to learn the company, understand its research interests and future direction, and help groom the relationship."

Because of the way Los Alamos manages these activities, and because as a federal entity it is required to make services available to all companies, it maintains many types of relationships; only 6 to 10, however, are strategic. Together, these strategic relationships form what Accenture calls a single strategic partnering channel.

Case Study: How Wyeth increased the pace of innovation

Sourcing innovation, of course, is not limited to products and services. Strategic partnerships also can lead to innovative new processes.

Take Wyeth, one of the world's largest research-driven pharmaceuticals and healthcare products companies. The company, based in Madison, New Jersey, has initiated three of the 10 most successful prescription medication launches of all time—in just the past four years. To maintain this pace of innovation and productivity, Wyeth teamed with Accenture to better coordinate the efforts of its four research centers, create a culture of accountability, and improve cycle times and productivity during the critical drug-discovery stage between exploratory research and clinical development.

In 2001, working in collaboration with an Accenture performance management team, Wyeth created organizational objectives, management objectives to support the company's vision of improved productivity and performance metrics to measure progress. Meanwhile, an Accenture drug-discovery team helped develop ways to better focus Wyeth's drug-discovery efforts—including the creation of innovative interim guidelines and uniform rules for the use of new technology.

The combination of a new culture of accountability and a more disciplined approach resulted in Wyeth R&D increasing its drug-discovery output by 300 percent in the first year, with no additional capital investment. The improvements in innovation and productivity have had no negative impact on quality, and are sustainable over the long term.

We determined from our interviews that each channel has a different set of strengths and weaknesses relative to various innovation objectives (see chart, page 23). Community sourcing (also called open sourcing), for example, has the benefit of low costs because a company typically pays community-based innovators less than an in-house operation would cost.

However, executives often find it more difficult to direct this channel than others. Co-sourcing and community sourcing present complex intellectual property challenges. Different sourcing channels require different internal management capabilities, innovation processes, external relationships, information flows and intellectual property arrangements.

Structure and process

Needless to say, the companies that leverage innovation channels go beyond a simple transactional approach to sourcing. They still do one-off deals on occasion, but most of their sourced innovation comes through channels they establish deliberately. A company cultivates external channels it wants to use so that they are available consistently. Moreover, it chooses channels that match its strategic requirements. Once established, these channels can be used fluidly to meet strategic issues concerning problem solving, customer needs and even market making.

Just as they do with other types of channels, companies establish innovation sourcing channels through organizational structures and processes. Procter & Gamble, for example, has established a business development group that is charged with soliciting and managing innovation sourcing relationships.

Companies can establish a playbook of alternative processes as well.

Says one manager at Los Alamos National Laboratory, "We engage in a number of different types of interactions with companies, including shared staff, shared facilities, straight-up licensing, sponsored research and collaborative research." Industrial business development chief Smith tailors management practices at Los Alamos to the type of relationship at hand.

Surprisingly few organizations have anything but anecdotal data about how their innovation partnerships perform. One exception is Nokia, which assesses long-term development relationships regularly and includes an innovation metric on supplier scorecards. Companies that use innovation channels actively will opt for measures that capture each channel's contribution to the organization's overall innovation goal.

To institutionalize channels throughout the organization, companies manage innovation in a way that invites external opportunities. By positioning themselves as the partner of choice, these organizations attract new ideas. Eli Lilly and Company, The Boots Company, Nokia and GMP Companies each review thousands of opportunities a year, most of which are unsolicited.

Dr. Michael Salem, executive vice president of research and development at GMP, a medical-technologies maker, notes: "We keep our patent holders and inventors involved throughout the process. If you do right by them with the first technology, they will consider you for their other discoveries, and they will also tell their colleagues."

UK pharmacy chain Boots takes a different approach. It helps venture

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capital firms evaluate the market potential of biotech startups looking for funds. Boots prefers not to take equity positions in these companies, but acting as a due diligence gatekeeper gives Boots executives an early look at emerging health-care products.

Crossing boundaries

Leading companies routinely cross boundaries when they source innovation externally—across the innovation chain, across organizational cultures, and across time and space. To do this effectively, executives must identify the boundaries they are trying to cross and then bridge them deliberately. Accenture research shows that companies achieve this by recognizing barriers, linking similar processes and overcoming differences in mindset.

First, companies need to recognize barriers and boundaries explicitly. Successful companies acknowledge the differences that separate the organizations, and then many of them bridge “like-to-like” processes. For example, ABB, a power and automation technology group, manages projects with the academic world through its own closest equivalent, the corporate research center. The group’s business units manage focused development projects with smaller firms. At the corporate level, ABB establishes and manages larger development partnerships with external partners its own size.

In each of these cases, the innovative activities are comfortably settled within one segment of the innovation chain. Although the project crosses firm boundaries, the individuals involved share a common mindset. Ph.D.s manage relationships with Ph.D.s, for example, and developers work with developers.

Sourcing innovation across sectors of the innovation chain requires a different approach. In these situations, effective processes must be designed to bridge mindset differences as well as corporate boundaries.

For example, many companies report that they have difficulty working with universities because academic institutions often lack a commercial approach to deadlines and deliverables. Explains GMP’s Salem: “The great universities have up to hundreds of patent disclosures a year but may commercialize very few of them. Our company was set up to commercialize that untapped pipeline.”

To address incongruent mindsets, GMP helps both the university and the individual patent holders align their interests toward achieving commercial success. It establishes a separate legal entity for the venture and shares equity with the university. The patent holder participates on the development team, but does not lead it.

While this approach keeps critical knowledge close to the project and accords the inventor respect, it also ensures that project leadership remains focused and deadline-driven. GMP relationship managers—former academics, physicians and scientists—shepherd inventors through the communication-intensive, but well-defined, process for turning patents into products.

Holistic innovation

The most sophisticated innovators drive product and service advances through innovation channels. But they don’t stop there. These companies focus internal innovation on creating entirely new market spaces and business models.

These big ideas define new problems—whole new categories of need, which these organizations use to orchestrate innovation holistically across all sources.

The companies that manage innovation holistically use external sources very differently from the companies that source transaction by transaction. They don't look to outsiders primarily to support internal staff or to provide noncore development. Because these leading companies are using big ideas to open new categories of products and services, they often find themselves short on the critical expertise they require. They then turn to outsiders for these core skills.

The companies in our study used three main organizing principles for driving innovation holistically.

Business models. Boots develops new business models to drive growth and focus innovation. For instance, Boots recognized that Britain's National Health Service was having difficulty responding to patient demands for diagnostic tests. Leveraging its trusted brand and its customer franchise in pharmaceuticals retailing, Boots devised a new business model whereby it offers convenient and accessible well-being and disease-management services through its 1,400 high street locations in the United Kingdom.

This promising new business model frames an open space for product and service innovation, and Boots turns to outside sources for answers. As one Boots executive told an interviewer recently: "We do not need to invent all the solutions.

We prefer to make money by being the exclusive commercializer of new technology—by bringing these valuable new services to our customers. We are working with venture capitalists to spot interesting opportunities."

Scenarios. A luxury-car maker uses mind-maps (graphic representations of the ideas that compose a new concept) and scenarios to orchestrate automotive innovation. It manages the innovation process in two directions: bottom-up and top-down.

Each year, the company collects hundreds of ideas for distinctive ways to improve its cars from customers, engineers, centers of competence and competitive intelligence. Each idea is summarized in a one-page document that describes anticipated costs and benefits.

Strengths and weaknesses of sourcing channels

Each channel has different strengths and weaknesses. For example, it can be relatively expensive to invest in innovators, but they also offer a high degree of differentiation.

Innovation sourcing channels	Cost	Ease of integration	Ease of differentiation	Ability to retain ownership	Control over results	Ease of management
Buying innovation on the market	●	●	●	●	●	●
Sponsored research	●	●	●	●	●	●
Innovation for hire	●	●	●	●	●	●
Strategic procurement	●	●	●	●	●	●
Investing in innovators	●	●	●	●	●	●
Venture capital/equity plays	●	●	●	●	●	●
Co-sourcing	●	●	●	●	●	●
Within innovation sectors	●	●	●	●	●	●
Across innovation sectors	●	●	●	●	●	●
Community sourcing	●	●	●	●	●	●
Resourcing	●	●	●	●	●	●

Worst ● ● ● ● ● Best

SOURCE: ACCENTURE ANALYSIS

Innovation management processes such as portfolio management or stage gates may have to be tilted toward value capture rather than internal development.

In addition, the senior development staff prepares a series of functional scenarios, each one describing a different view of the car of the future. This top-down, big idea look enables executives to bundle collections of good ideas into focused, long-term initiatives with clear market logic. It also opens up white space that makes room for external contributions.

As one senior executive puts it, “Our goal is to have one major breakthrough innovation per year. In the past, we had a very analytical process in which we tried to rank hundreds of individual ideas. By introducing functional scenarios, we have defined the areas we want to search in. It also gives more top management weight and attention to innovation management.”

Product domains. Drugmaker Lilly’s philosophy is “research innovation without walls.” The company aims for a fluid approach, using internal and external sources to generate a surfeit of innovation.

According to Dave Thompson, Lilly’s senior vice president of strategy and corporate development, “We aggregate innovation by therapeutic focus, such as central nervous system, oncology and diabetes. Each of these areas has its own strategy and knows the products it would like to have that it does not yet have. Out of that, the area develops a priority list that guides both internal efforts and external sourcing.” Lilly employs categories for therapeutic focus that are standard throughout the industry, which makes it easy to communicate priorities and needs to external suppliers of innovation.

What practices are missing from this list? Two prominent ones are *portfolio management* and *stage-gate*

processes. Many of the companies we researched rely on these well-known approaches to organize and evaluate innovation projects.

These two approaches provide an overall financial and risk-related portrait of a company’s innovations in process. They do not, however, create the same kind of innovation guidance found in the three types of big ideas outlined above. Even the best portfolio management process gives no indication about where to look for the next innovation—which is exactly what a big idea does provide.

Still, portfolio management and stage-gate processes are important components of innovation management. But to be effective, they must be tailored to the nature and context of the company’s innovation agenda.

Lilly, for example, has a useful variation on the traditional yes/no decisions made at stage gates: “No for us, yes for someone else.” If a new drug compound is not right to take to the next stage at Lilly, the company’s corporate business development function considers licensing it to another firm outright, licensing it with the option to bring it back into Lilly later, or jointly developing it with a partner.

Lilly also pays careful attention to time cycles in its stage gates, employing an “early warning system” for drug compounds that are within 90 days of when they are scheduled to pass through a stage. However, portfolio management and stage-gate processes do not distinguish companies that manage innovation holistically from those that do not.

Adopting an innovation sourcing strategy means using a very different model for managing innovation than most companies now employ. Since many companies focus inno-

vation on product development, the responsible executives typically have scientific or technical backgrounds. With an innovation sourcing strategy, expertise in commercialization and channel management may be more relevant to innovation success. Similarly, innovation management processes such as portfolio management or stage gates may have to be tilted toward value capture rather than internal development.

In addition, performance measurement is essential, even if it is imperfect. Companies certainly should not abandon internal, product-based innovation. However, there is a much wider and richer array of innovation sources available, and companies should weld these into effective channels. This is a much more complex world for innovation-oriented executives to manage, but a potentially much more rewarding one as well.

Viewed broadly as a process that includes not only ideation and discovery but also commercialization and value capture, innovation is the key to long-term growth in any business. In fact, in some industries, successful commercialization can be a more reliable route to financial returns than other aspects of innovation. As one of the retail executives we interviewed commented, "It is not the product innovators who end up rich—it is the merchants."

In other words, companies that beat a path to market with innovations in hand—whether they developed them or not—are the big winners. ■

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