

16.5: Increasing Speed and Effectiveness of International Innovation

Learning Objectives

1. Know the difference between product innovation and process innovation.
2. Describe the ways in which open innovation and innovation contests improve innovation outcomes.
3. Understand how businesses encourage intrapreneurs to contribute to the company's innovation efforts.

Process Innovations

We typically think of new products and services as the innovation output of investments in research and development (R&D). However, a significant amount of innovation yields no new products or services, not because of R&D failure, but because the innovations are not related to a company's core processes. A **process innovation** is an innovation in the way a company does any process, such as taking a customer order. A **process** is defined as "a specific ordering of work activities across time and place, with a beginning and end, and clearly identified inputs and outputs." Thomas Davenport, *Process Innovation* (Cambridge, MA: Harvard Business School Press, 1993), 5. Processes can be simple activities (e.g., filling out a travel expense report), longer processes (e.g., issuing an insurance policy), or a broad set of activities (e.g., inventory management and distributions). The broader the process, the more impact innovating that process will have. For example, UPS made a process change when designing the routes its drivers follow when making deliveries. The company's routes give preference to making right turns rather than left turns whenever possible. The reason is that right turns are easier, faster, and safer—and they save fuel compared to left turns. This "right turn" process innovation doesn't involve the customer, but it helps UPS operate more efficiently.

Open Innovation

Among the latest developments in corporate innovation is the concept of open innovation. **Open innovation** is the intentional leveraging of the research, ideas, or technologies of outsiders—that is, people or companies that are not part of the corporate entity—rather than relying solely on innovations that are generated from inside the company. Open innovation takes innovation beyond a company's R&D lab and lets customers and partners participate in the creation of new product and services.

Procter & Gamble (P&G) embarked on open innovation in 2001 with its Connect + Develop program. For example, the innovation of printing text or images on Pringles chips came about through P&G partnering with a professor in Italy who ran a small bakery and had invented a technology that used ink-jet techniques to print pictures on pastries. Stefan Lindegaard, *The Open Innovation Revolution* (New York: John Wiley & Sons, 2010), 9. P&G adopted the technology to work with potato chips and launched Pringles Prints (chips with images and text printed on them) at a fraction of the cost and time it would have taken to research and develop the technology internally. Since adopting open innovation 2001, P&G's innovation success rate has doubled, while its costs have decreased. Larry Huston and Nabil Sakkab, "Connect and Develop," *Harvard Business Review* 84, no. 3 (March 2006), accessed January 2, 2011, hbr.org/2006/03/connect-and-develop/ar/1.

Another example of open innovation is from Kraft Foods. When Irene Rosenfeld took over as CEO of Kraft Foods, she saw an anemic innovation pipeline. The company had 2,000 corporate R&D staff—scientists, engineers and chemists—but new products weren't flowing rapidly enough. Andrea Meyer, "Kraft: The '\$40 Billion Start-Up' Spurs Innovation," *Working Knowledge* (blog), October 7, 2009, accessed February 27, 2011, <http://workingknowledge.com/blog/?p=878>. To solve the problem, she encouraged Kraft managers to reach out beyond corporate R&D and enlist the help of employees across the whole company, as well as suppliers and partners, to spur innovation. For example, Kraft runs an online "Innovate with Kraft" program whereby anyone can submit product ideas. The idea for Kraft's Bagel-fuls (frozen bagels prefilled with Philadelphia Cream Cheese), for instance, came unsolicited from a bagel supplier. The idea was a win-win for both companies: it solved some technical challenges that Kraft had faced in delivering a bagel-and-cheese combo, and it boosted the revenue of the bagel supplier.

Innovation Contests

One method by which a company can manage and run open innovation is to use a contest or "challenge" method. In the contest method, the company poses a challenge, such as a way "to drop large amounts Humanitarian food and water packages from an aircraft into populated areas such that there is no danger of falling objects (i.e., nonfood items) causing harm to those on the ground" and offers a financial reward to the person, company, or team that solves the problem first. "Humanitarian Air Drop Challenge," *InnoCentive*, March 2, 2011, accessed March 4, 2011, gw.innocentive.com/ar/challenge/overview/9932741.

Companies can run their own open innovation contests, or they can use a third-party provider like InnoCentive (which originated inside Eli Lilly and Company and was spun off as a separate company in 2005). InnoCentive runs contests via the web and has a community of more than 180,000 engineers, scientists, inventors, business professionals, and research organizations in 175 countries who regularly participate in its contests. Financial prizes as high as \$1 million are awarded for the best solutions.

The advantages of the open innovation contest approach include the following:

1. Reduced cost of R&D because, rather than funding R&D projects that may fail, the contest approach pays the financial reward only after the solution is found. If no viable solution is found, the company does not pay the financial reward.
2. Faster product development time because multiple teams work on the project at the same time, with an incentive to be the first to develop a viable solution and thus win the prize.
3. Access to experts from around the world. The experts do not have to be employed by the firm but can still contribute an idea or solution. This gives a firm access to experts and talent which it couldn't afford to employ full time.
4. Bigger breakthroughs because experts in a different field can make an unusual connection. For example, InnoCentive's challenge to find a biomarker for ALS disease received a solution proposed by a dermatologist—someone completely outside the ALS research field but who had an idea for a low-cost testing method.

The contest method has had such success that now the US government also uses this approach to reward innovative solutions. See [challenge.gov](#) for the list of challenges that the government is running.

Role of Intrapreneurship in Corporate Innovation

Large multinationals that have R&D centers also look for other ways to encourage innovation and new ideas. One effective way to stimulate innovation is to devise ways for intrapreneurs to contribute their ideas. Let's look at how one multinational, Shell, does this. Despite spending over \$1 billion annually on R&D, Shell also runs a small program called GameChanger to foster radically innovative ideas. Started in 2006, GameChanger is a program to which any Shell employee anywhere in the world can contribute an idea for a product, project, or service. The program is open to nonemployees as well, making it an example of open innovation. Interestingly, about 70 percent of the proposed projects include at least one person who is not a Shell employee. (The nonemployee is typically someone associated with a university.) "Boston Consulting Group, Simulation Advantage," Boston Consulting Group, accessed February 26, 2011, www.bcg.com/documents/file57197.pdf. Under the GameChanger program, a team of experts evaluates all the submitted ideas. Ideas that look promising are awarded funding of \$15,000 to \$25,000 so that the person who submitted the idea can expand on the proposal, possibly developing a prototype and attracting collaborators. Russell Conser, "Shell GameChanger: Space to Free the Mind," *Innosight* 6, no. 4 (July–August 2008), accessed January 2, 2011, http://www.innosight.com/innovation_resources/article.html?id=628. Ideas that pass the next screening by a broader group of experts get funded to the tune of \$500,000 to \$1 million for a year. After that, the idea may be further developed by a Shell business, spun off as a separate company, or sold to another company. Wendel Broere, "Sparking the Spirit of Innovation," July 13, 2007, accessed January 17, 2011, www.shell.com/home/content/innovation/innovative_thinking/game_changer/sparking_innovation/.

Did You Know?

Did you know that the best people to run a new idea may be those who have the most passion for it? That's what retailer Best Buy's CMO believes. He encourages the intrapreneurial spirit by letting employees self-select the projects they want to work on and letting those with the most passion for the idea run it: "The Loop [a market prediction tool developed internally at Best Buy] is run by retail operations. They have the passion for it so they run it. Typically at Best Buy one of the ideas is if you've got passion then you may be best suited to take it on regardless of what organization you're in because you have point of view." Francois Gossieaux and Ed Moran, *The Hyper-Social Organization* (New York: McGraw-Hill, 2010), 178.

User-Led Innovation

The precursor to open innovation was the concept of **user-led innovation**, first identified by MIT professor Eric von Hippel. Von Hippel noticed that many breakthrough innovations don't come out of a company's lab but rather from the lead users of the company's products. In some cases, the lead users even precede a company. For example, von Hippel says that skateboards were the invention of people who took their roller skates and hammered a piece of board between them. Haydn Shaughnessy, "Eric Von Hippel on Innovation," *Innovation Management*, February 21, 2011, accessed February 25, 2011, http://www.innovationmanagement.se/2011/02/21/eric-von-hippel-on-innovation/?utm_source=Subscribers+InnovationManagement.se&utm_campaign=2780c497a9-

[Five+Steps+to+Profitable+Innovation&utm_medium=email](#). Companies later saw the popularity of the invention and took over the refinement and manufacture of skateboards. Similarly, von Hippel says, M-Pesa did not invent mobile banking. Rather, it saw people in Africa buying minutes for their cell phones and then transferring those minutes to relatives in lieu of money. M-Pesa made the process systematic so that money could be transferred between people who didn't already have a relationship with each other—namely, for business. Haydn Shaughnessy, “Eric Von Hippel on Innovation,” *Innovation Management*, February 21, 2011, accessed February 25, 2011, http://www.innovationmanagement.se/2011/02/21/eric-von-hippel-on-innovation/?utm_source=Subscribers+InnovationManagement.se&utm_campaign=2780c497a9-Five+Steps+to+Profitable+Innovation&utm_medium=email.

Social Networks

One of the features common to both open innovation and user-led innovation is the important and integral role played by social networks. A **social network** is a social structure made of nodes (which are generally individuals or organizations) that are connected by ties. In other words, it's a set of relationships among people. Your social network is the structure of personal and professional relationships you have with others. **Social capital**, in turn, is the resources—such as ideas, information, money, and trust—that you're able to access and influence through your social network. While social networks and social capital can be associated with many things, they're particularly important sources of innovation.

In a typical company, innovation relies on a handpicked team leading an innovation project. The trouble is that these teams often have no good way of tapping the expertise of the whole company. They tend to call on the small circle of colleagues they know or on the acknowledged experts in an established field. But such teams often have a hard time identifying people they don't already know but who might have knowledge relevant to the problem at hand. As a result, potential good ideas are lost or hidden—they remain inside the heads of unknown employees. That's where social software tools come in handy. With social software tools, a company can start a discussion on a topic and employees who know about the topic self-identify by posting ideas, refining the ideas of others, and voting on ideas. That is, employees don't need to be “found” by the innovation team. They can post ideas and thus self-identify and demonstrate their knowledge. For example, a company could start a discussion like “Can we develop a new water-filtration product?” People from market research might identify the top-selling filtration products. Someone from human resources who recently bought a water-filtration system for her family might contribute her own insights gathered from what blogs and outside websites were saying about all the competing products (e.g., “Brand B is bad because it's difficult to install”). Other employees might point out the engineering deficits of a proposed technology, such as that a potential filter material is too expensive for consumer water filters. Another person might have good suggestions for how to solve the cost problem (e.g., to coat the expensive filter ingredient on a cheaper material). The point is that with the help of social networking tools, these contributions can come from any employee, not just the handpicked team members and their inner circle. Andrea Meyer, “Using Social Media to Improve Corporate Innovation,” *Working Knowledge* (blog), accessed March 4, 2011, <http://workingknowledge.com/blog/?p=578>.

Software tools that promote social networking are even more important when companies expand internationally, because it will be hard for innovation teams to personally know all the employees who could contribute innovative ideas. With enterprise-wide social networking tools, these employees can self-identify.

KEY TAKEAWAYS

- A process innovation is a new way of doing things—the implementation of a new or significantly improved activity or set of activities. This includes significant changes in techniques, equipment, or software.
- Open innovation allows people outside a company—including university researchers, experts, suppliers, and partners—to contribute ideas and solutions for new products or services. One open innovation method is the holding of contests to solicit solutions and pay rewards for those solutions.
- Open innovation approaches save companies money: companies pay only for results, not for attempts that fail. Open innovation also saves time because concurrent teams work on solving the problem.
- Companies encourage intrapreneurs to propose new ideas and solutions, rewarding them with seed money to develop and grow their ideas.
- User-led innovation, identified by Eric von Hippel, shows how breakthrough innovations can originate from outside the research and development (R&D) lab, coming from users who are passionate about an idea.
- Social networks and social media technology enable innovative ideas to be shared and discussed by employees at all levels.

EXERCISES

(AACSB: Reflective Thinking, Analytical Skills)

1. How are process innovations similar to but different from product innovations?
2. What are the advantages and disadvantages of open innovation?
3. How are open innovation and user-led innovation distinct from ways R&D and innovation were managed in the past?
4. How might a company encourage intrapreneurs to contribute innovative ideas?
5. What benefits do companies gain by using open innovation contests?

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