



Open Innovation

YOUR ON-RAMP
TO CREATING
A BETTER PRODUCT

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OPEN INNOVATION OVERVIEW

For most companies, the process of creating new, innovative products and getting them out the door starts with tapping the most talented members of the R&D team. Once they have arrived at an idea and decided it is feasible, R&D moves to determining the most effective way to develop it and bring it to market. It sounds logical, but what if there was a way to reinvent the process and bring better products to market faster and at a lower cost?

Open innovation enables organizations to look outside their company walls and gain new ideas and solutions from a worldwide audience of professionals. By tapping a global, diverse community of minds, product development departments can increase the likelihood that the next big idea—and the steps designed to bring it to fruition—will be the best solutions possible.

This paper will describe open innovation, its origins, and the ways in which companies are using open innovation to meet their goals for growth and innovation through tools and services available on the Internet. It will also show that inviting individuals with expertise outside of a product's discipline (a mathematician helping with a chemistry related product, for example) will actually increase the likelihood of developing a superior product.

What is Open Innovation? (Source: Wikipedia)

Open Innovation is a term promoted by Henry Chesbrough, a professor and executive director at the Center for Open Innovation at Berkeley. The term can be broadly defined as the process by which an organization seeks ideas and expertise outside company walls. Under this concept, it is argued that a company cannot and should not rely solely on its own research, but will benefit by engaging individuals outside the company to further innovation and business goals. Additionally, under this concept, businesses also look for opportunities outside of the company for internal inventions not used within the firm's business. Open innovation is the opposite of "closed innovation," the term broadly used to define companies that make limited use of external knowledge and limit the use of internal knowledge outside the company.

The Roots of Open Innovation

While closed innovation has been the way most companies have operated, especially prior to World War II, there are many examples of open innovation throughout history, such as in contests in which individuals could win cash prizes for their innovative ideas and solutions.

In 1714, the British government through an Act of Parliament, offered the Longitude Prize to anyone who could develop a practical method for the precise determination of a ship's longitude. In total, over £100,000 was given in the form of encouragements and awards. The significant winner was John Harrison, who received £14,315 for his work on chronometers.

Likewise, in 1919, New York City hotel owner Raymond Orteig offered a \$25,000 reward to the first allied aviator(s) to fly non-stop from New York City to Paris or vice-versa. It was a relatively unknown individual, Charles Lindbergh, who won the prize in 1927 in his aircraft Spirit of St. Louis and made history.

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In recent years, there has been the X PRIZE and the DARPA Grand Challenges. With the former, the X PRIZE Foundation sponsored a space competition and offered a \$10,000,000 prize for the first non-government organization to launch a reusable manned spacecraft into space twice within two weeks. Likewise, the DARPA Grand Challenge is an annual competition for driverless cars, sponsored by the Defense Advanced Research Projects Agency. Congress has authorized DARPA to award cash prizes to further DARPA's mission to sponsor research that bridges the gap between fundamental discoveries and their use for national security.

Today, open innovation can be seen all over the world. Non-profit organizations, corporations and government agencies are using the Internet to reach a worldwide audience, and they are taking their in-house Challenges and seeking the public's help in solving them.

Why does Open Innovation Work?

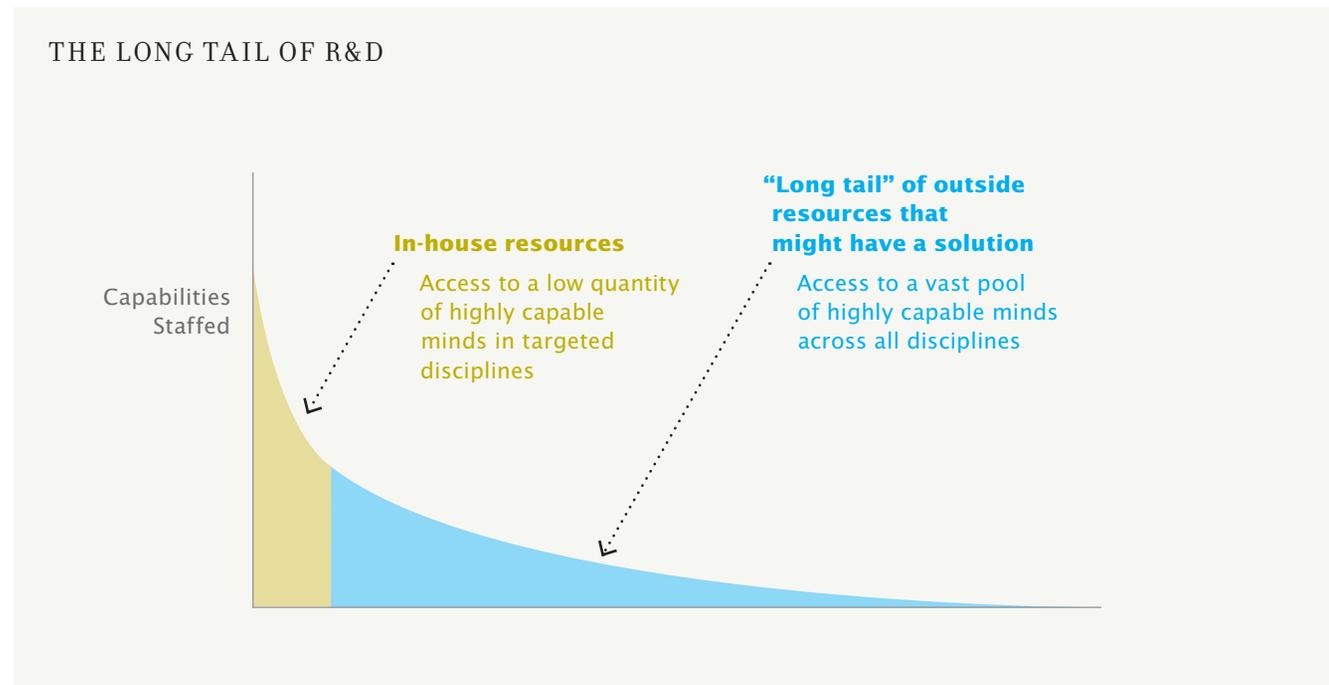
While it is still a growing concept, open innovation is helping companies to succeed because it is reaching a larger audience of people and allowing people with outside perspectives to apply their expertise to solving a problem.

Wired editor Chris Anderson describes this concept well in his description of the Long Tail of R&D in the October 2004 issue of *Wired* Magazine. In his description, which uses Amazon.com and Netflix as examples, he explains that the low distribution and inventory costs of these businesses allow them to realize significant profit out of selling small volumes of hard-to-find items to many customers, instead of only selling large volumes of a reduced number of popular items. The group of individuals that buy the hard-to-find, or “non-hit” items, is the customer demographic called the Long Tail.

In open innovation R&D, the power of the Long Tail applies to how companies open themselves up to a vast network of professionals and experts from a varied collection of disciplines, increasing the likelihood that someone will come up with a creative solution.

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In further support for the theory, in a [2007 Harvard Business School research paper](#), “The Value of Openness in Scientific Problem Solving,” Karim R. Lakhani and his colleagues examined the most effective ways to solve scientific problems. Their findings show that the success in scientific problem solving is most “associated with the ability to attract specialized solvers with a range of diverse scientific interests. Furthermore, successful solvers solved problems at the boundary or outside of their fields of expertise, indicating a transfer of knowledge from one field to others.”



As Figure 1 shows, under the Long Tail of R&D principle, in-house resources only represent a small percentage of capabilities

What are the benefits to Engaging in Open Innovation?

As noted above by Harvard professor, Karim R. Lakhani, by engaging in open innovation, a company has the opportunity to reach millions of people and utilize a global database of knowledge. In many cases it is individuals from different industries with different ideas and expertise that offer a solution.

For example, it was an individual whose background was in nanotechnology who solved a challenge placed by the Ocean Spill Recovery Institute (OSRI), based in Cordova, Alaska. The challenge was funded by the government and the oil industry, and sought solutions related to the recovery of oil and the reduction of environmental damage related to the Exxon Valdez oil spill.

In the challenge OSRI sought a method for separating oil from water on oil recovery barges after the oil and water had frozen to a viscous mass. The individual who solved the solution in October 2007 was awarded \$20,000 for his solution that proposed deploying an existing tool common in the concrete industry that used vibration to keep cement in liquid form during mass cement pours. The Solver realized that by attaching a long pole and inserting the tool into the oil recovery barges, it would keep the oil from freezing into a viscous state and allow the oil to be easily pumped from the barge.

Additionally, research has found that companies that do best in a tough economy are those that innovate and are open to outside ideas. The only way to do this affordably is through open innovation. Now more than ever, companies need to innovate and do it more efficiently by focusing on the most efficient use of corporate resources. It enables companies to have their employees focus on the most important tasks while outsourcing for additional ideas and input. Open Innovation also enables a company to do more with its current budget or cut budgets without compromising innovation. It can also lead to more innovative products that can be brought to market more quickly than in using traditional methods.

In summary, open innovation can do a world of good for an organization and open doors to ideas that may not have been thought of before. While open innovation has been around for decades, the Internet has enabled us to take it a bit further and engage a worldwide audience to participate in the open innovation process. For businesses, this means cost savings, new ideas and faster solutions. For the public, this means a chance to use their knowledge and skills to solve world issues. 

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ABOUT THE AUTHOR

Dwayne Spradlin is Chief Executive officer at InnoCentive. Founded in 2001, InnoCentive built the first global web community for open innovation. InnoCentive Seekers, organizations such as Eli Lilly and Company, Janssen, Solvay, GlobalGiving and The Rockefeller Foundation, submit complex problems to InnoCentive where more than 160,000 engineers, scientists, inventors, business people, and research organizations in are invited to solve them. Solvers who deliver the most innovative solutions receive financial awards ranging up to \$1,000,000.

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