OPEN INNOVATION AT PFIZER

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Leading pharmaceutical player Pfizer enlisted outside help to run an innovation contest—and created a winning idea that impresses even its own experts.

DEFINING THE OPEN INNOVATION CHALLENGE

New York-based Pfizer Inc., one of the world's largest pharmaceutical companies, wanted to develop a smart, technology-enabled packaging device for its prefilled syringes, which are in high demand in the marketplace due to their injection safety and easier self-administration. The device needed to enable healthcare providers to determine whether patients are taking their prescribed medication and whether the syringe's contents are at the right temperature when administered.

The problem was relatively well defined and of low technological complexity as it did not affect the mechanics of the syringe. However, Pfizer's open innovation experts were unable to find a solution and were acutely aware that there was a wide range of technological possibilities for solving this challenge. Indeed, the best solution appeared to be "hidden" and difficult to access.

CHOOSING AN OPEN INNOVATION APPROACH

Pfizer decided to use an open innovation contest as part of its problem-solving strategy. An open innovation contest involved a diverse set of external actors—individuals and organizations—with far-reaching knowledge and enabling them to compete for the best solution (see "Four modes of open innovation"). A final winner of the contest would receive specified prize money.

An open innovation contest can offer access to truly creative solutions. Although Pfizer was capable of designing and implementing the open innovation contest on its own, the open innovation experts considered working with open innovation intermediaries. It was felt that open innovation intermediaries may increase the potential success of the project, and less effort in the design and management of the contest would be required. Open innovation intermediaries are specialized service providers that support their clients' problem-solving efforts. The design and implementation of innovation contests, that enable their clients to use external talent and skills, is a common service offering for many open innovation intermediaries. Often, they make use of digital platforms to facilitate this process.

Today, a growing number of open innovation intermediaries offer different kinds of services, have access to diverse external solution providers and experts, and employ new business models.

Pfizer sought the best possible intermediary, which offered the right kind of contest as a service offering and was willing to agree to Pfizer's need for control over the firm's critical intellectual property and sensitive information.

PICKING THE RIGHT INTERMEDIARY

When the innovation challenge emerged, Pfizer's team had already developed a sound understanding of open innovation intermediaries in the market. To select the right open innovation intermediary, Pfizer assessed the business models of various providers and chose an intermediary called IdeaConnection which specializes in team-based problem-solving.

Using team-based solution contests, the provider assembles teams with different skills and expertise who compete to come up with innovative R&D solutions and working prototypes for client-specific problems. After hosting a competition for the best solution, the client selects the winner.

IdeaConnection's business model is performance based. Only once the solution meets the client's specific success criteria is the service fee payable and the winning team receives the financial reward. An added value of the service is that the client also has access to additional "free" prototypes—the other solutions that did not make it to the top can also be reviewed by the client during the evaluation process. And by accessing other suggestions developed by the crowd, the client has non-exclusive usage rights to additional solutions for a fraction of the prize money given to the final winner.

Piloting and assessing design solutions takes a considerable time. Given the nature of the challenge, Pfizer steered clear of the classic contest approach where a large crowd of hundreds of individuals generates new technical solutions. Evaluating the results of a smart, technology-enabled packing design for pre-filled syringes from such a large contest would consume far too much time. However, for challenges in areas such as data analytics or data optimization the open innovation unit at Pfizer considers these kinds of contests ideal. Using other service providers with access to a wide range of experts in data science and programming can mean solutions for data analytics or optimization problems can be more easily and thoroughly assessed (for example, the run-time of a code or accuracy of a solution).

WRITING IP RULES

Following the selection of its intermediary, Pfizer established intellectual property (IP) policies and a service agreement. At Pfizer, such rules differ depending on an intermediary's business model and the expected outcome of the open innovation activity. For instance, outcomes consisting of documents such as marketing briefs would call for different rules than those comprising new product designs.

For projects like the packaging design contest, the rules in the IP policies and service agreement outlined how classified information about Pfizer would remain confidential. It was essential to reduce the risk of sensitive data being shared with the intermediary or external problem solvers. Pfizer's internal legal experts took part in clarifying the rules around not only data and information exchange, but also who owned which IP and how IP was to be used. By establishing broader framework agreements customized toward the particular type of problem and open innovation mode, Pfizer had the opportunity to launch a new open innovation project with IdeaConnection without the need to renegotiate the IP rules.

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ENSURING EXCELLENCE IN TECHNOLOGY TRANSFER

Ultimately, Pfizer knew that its internal teams would need to test and refine prototypes for the new design that emerged from the intermediary's contest. And it anticipated resistance from internal teams who may be skeptical or resentful about new ideas coming from outside the company.
To ensure the successful execution of the new design, Pfizer pitched the benefits of using the intermediary to the Research & Development (R&D) workforce prior to the launch of the project. As managers explained to internal teams, this approach would deliver "reduced costs, reduced time—and also "free" prototype information."

Pfizer teams located within different units and groups had to work together to implement the new smart packaging design. Collaboration was key. To this end, Pfizer involved the units and groups in the early phases of the project, including explaining what the expected outcomes would be and which implementation responsibilities they would have. Pfizer also encouraged the sharing of resources across its organizational units to drive the execution of the smart packaging design. Volunteers from different internal units and teams gave their time and expertise to support the implementation effort, including integrating the externally generated solution into Pfizer's internal processes and systems.

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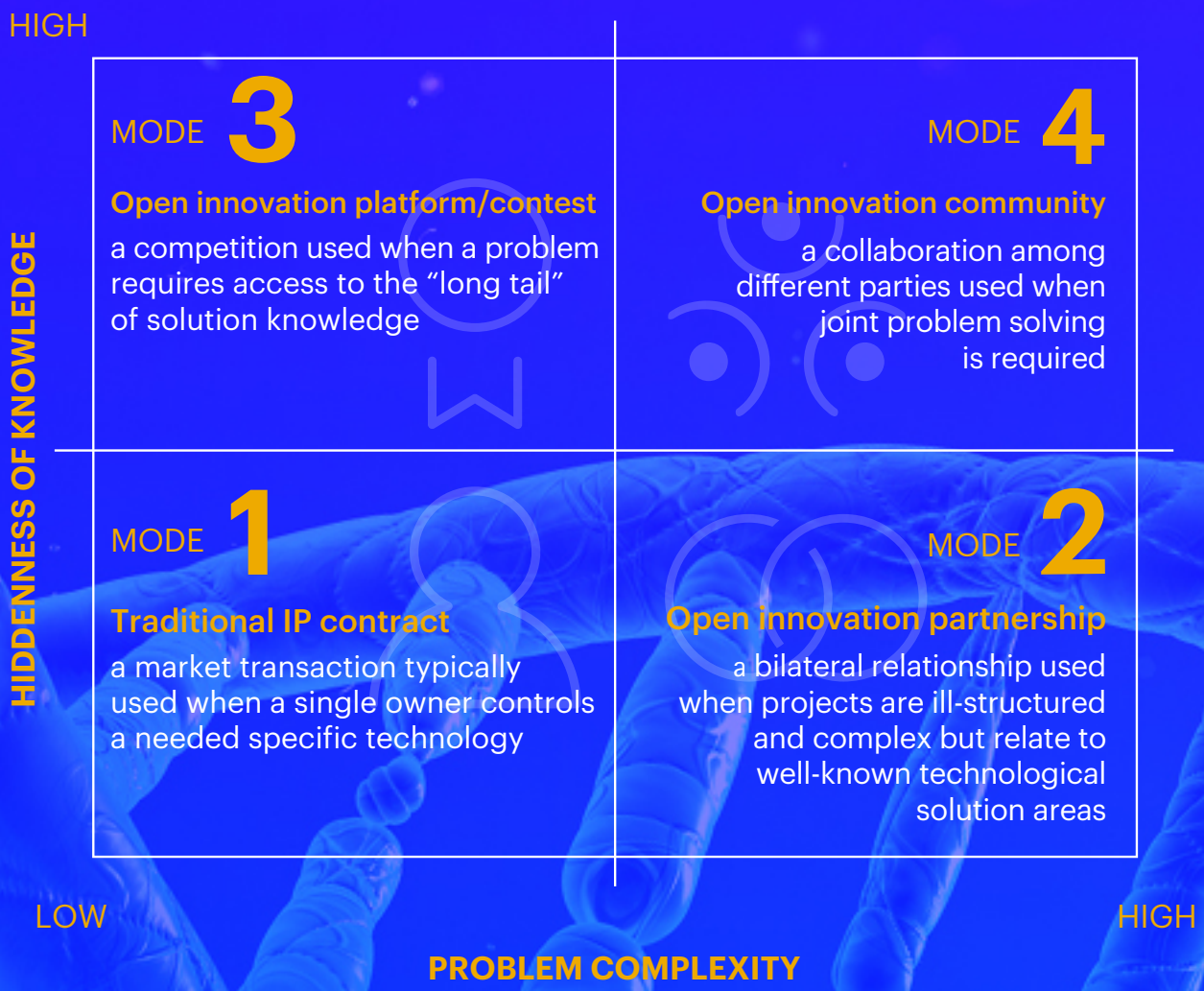
SCORING SUCCESSES

Pfizer's open innovation strategy realized returns. First, the smart packaging design solution for pre-filled syringes that emerged from the innovation contest exceeded internal teams' expectations in terms of the critical measures of success, such as creativity and technical feasibility. Equally valuable, the contest generated a handful of additional prototype ideas developed by expert teams that had not won the competition. Pfizer's internal teams could keep these "extras" on hand in case they proved useful in the future for developing other products or solving unexpected technical challenges. And finally, using an intermediary had considerable cost benefits—the company worked on a fixed-cost basis. Pfizer benefitted from multiple promising prototypes at one price—a far better deal than if it had hired a traditional industrial designer to deliver a single solution.

FOUR MODES OF OPEN INNOVATION

In our research, we studied the research and development (R&D) operations of several large corporations with headquarters in the United States and Europe.[1] These companies each had more than 1,000 employees and total revenues of at least US$250 million. We found that, to work with external parties to augment their internal R&D, these corporations have used four basic modes of open innovation:[2]



Source: Bagherzadeh, M. and S. Brunswicker (2015). Mix and match: Open Innovation Project Attributes and Optimal Governance Modes. World Open Innovation Conference 2015. Santa Clara, UC Berkeley; accessible via SSRN https://ssrn.com/abstract=2821203

[1] These four modes of open innovation were identified based on an analysis of more than 100 open innovation projects of large firms in the United States and Europe. This data collection was jointly executed by the Research Center for Open Digital Innovation and Haas School of Business, UC Berkeley. For more detail on this classification scheme see Bagherzadeh, M., S. Brunswicker et al (2015). Mix and match: Open Innovation Project Attributes and Optimal Governance Modes. World Open Innovation Conference 2015. Santa Clara, UC Berkeley

[2] For more detail on the study results read the report: Brunswicker, Sabine; Bagherzadeh, Mehdi; Lamb, Allison; Narsalay, Raghav; Jing, Yu. (2016). Managing open innovation projects with impact. Whitepaper. Research Center for Open Digital Innovation, Purdue University. West Lafayette, Indiana. www.purdue.edu/opendigital

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