

external

6. DETERMINE SOLUTION TYPE
Filter By Project Need

- EXPERT PARTNER
- PROPOSAL
- NONVALIDATED, THEORETICAL
- VALIDATED, PROVEN

What solution type you require will depend on how complete and actionable you want the answer to your challenge to be.

5. LEVERAGE TOOLS/ PLATFORMS
Evaluate Attributes

- REACH of the network
- TRUST in network integrity
- RULES of participation
- DEGREE of confidentiality

To choose the right platform for collaborating with new partners based on your risk profile, you must know the platform's specs as well as what motivates your new partner.

4. ASSESS CONFIDENTIALITY
Balance Risk Tradeoffs

Keeping confidentiality and risk management strategies consistent with risk profiles will allow you to protect and leverage IP and other assets.

A Fluid Process
Working with this Toolkit is intended to be an iterative process, not a one-time, one-afternoon project. It can be integrated into a range of planning activities: corporate strategy, community development, public policy, forecasting, and so on. As you use the Toolkit, you'll find that it also requires a fluid approach to thinking about the key issues and decisions on the path to Open Health. You don't need to follow the Toolkit's six steps in a linear way—you can start at any point, or address different steps at different stages in your own planning activities.

For example, you may have an idea of which type of solution you want (step 6), but you may need to revisit confidentiality concerns (step 4) or consider that some platforms are better sources of specific kinds of solutions than others (step 5). One company discovered that identifying participants first (step 3) and then developing the necessary skills in response (Step 2) was the best way to lower its boundaries. This is a useful lesson in the fluidity of Open Health itself—change is as likely to filter up from the bottom as come down from the top.

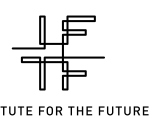
TEN PRINCIPLES

PUTTING OPEN HEALTH INTO PRACTICE

Applying an open innovation approach to health will require embracing new business models, new skills, and new institutional cultures. We have compiled a list of ten core principles that we think are important to consider in developing a successful Open Health strategy:

- 1 Encourage solution finders, not just problem solvers:** Open Health innovation systems require the ability to determine where and how to find solutions in a world characterized by global crowdsourcing.
- 2 Expand your engagement with lead users and biocitizens:** Companies that listen to active consumers and incorporate their contributions into R&D processes stand to gain from the insights and innovations of these individuals and communities.
- 3 Embrace a "not invented here" mindset:** Think of "not invented here" as a badge of honor, signifying the success of open innovation built upon greater transparency and collaboration with outsiders.
- 4 Redefine innovation beyond just the new:** "Innovation" is not simply a new invention or the creation of new things. For example, in Open Health, reaching society's poorest within tight constraints is an equally important innovation.
- 5 Engage with failure:** Failure is a necessity—and a valuable part of innovation. Organizational culture, as well as societal norms, must embrace failure as a critical element for developing new innovations and better health systems.
- 6 Define and maintain new commons:** Today's global health crises require a new commons approach that responds to market and public sector failures. Developing new business models downstream from health commons will prove valuable.
- 7 Cultivate transparency:** As trust in corporations has declined, customers have come to value transparency. Open Health strategies require addressing information asymmetries and opening channels for customer engagement to regain trust.
- 8 Cooperate to compete:** In the global health economy, social dilemmas arise that require an emphasis on cooperation rather than competition. Firms will need to cultivate cooperative strategies and novel partnerships in order to succeed.
- 9 Tap the collective intelligence in networks:** A firm's intellectual property may lie in the power of dynamic groups, not just patents or the lone genius. Open Health requires greater incentives for sharing information and cooperating collectively.
- 10 Embrace the broadening meanings of health:** Individuals and communities are forging new meanings of health and wellness. Concepts, practices, and strategies must be retooled to meet the needs created by these new definitions.

About the Health Horizons Program
The Institute for the Future's Health Horizons Program combines a deep understanding of the global health economy, consumer behavior, health and medical technologies, health care delivery systems, and societal forces to identify and evaluate emerging trends, discontinuities, and innovations in the next three to ten years. We help organizations work with foresights to develop insights and strategic tools to better position themselves in the marketplace.



For more information about the Health Horizons Program or the *Open Health Toolkit* and its companion map, the *Open Health Map of Disruptive Innovation*, visit our website at www.iftf.org or contact:
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OPEN HEALTH TOOLKIT

INNOVATION IN THE GLOBAL HEALTH ECONOMY

Open Health applies the principles of open innovation to the global health economy. It encourages the opening up of a firm's boundaries, resulting in extraordinary collaboration both inside and outside the firm. Sources of innovation move from traditional in-house R&D units to a range of entrepreneurs, startups, academics, university labs, and independent scientists around the world. Open Health is a new business strategy for health companies that provides a framework for recasting business models and innovation systems, and for rethinking the boundaries of health itself. Think of your Open Health strategy as a dial that you can gradually turn as you become more comfortable with this approach.

CLOSED

OPEN

What is Open Innovation?
During the last decade, innovation-driven companies across business sectors have turned to new and more open approaches to creating the next generation of products and services. Companies now recognize that many of the best ideas may come from unexpected sources, contributors who may not always be found within their own walls. Although this shift represents a significant—and some would say threatening—alternative to traditional research and development, companies have little choice. To continue to compete, they must look to both internal and external sources of innovation to expand their product and service lines and achieve the kind of growth their customers and stockholders have come to expect.

Why Open Health?
Faced with an expanding disease burden, a more inclusive definition of the health economy, and financing schemes that struggle to pay for it all, health companies are no different from other innovation-driven companies. Companies in the health sector must look for innovative solutions from the same kinds of new and unusual sources. Open Health strategies have something to offer to all stakeholders in the health economy: beauty, food, consumer electronics, biopharma, health care, medical technology, and those companies that have yet to cross the ever-more-permeable boundaries of health and health care.

The Institute for the Future's (ITF) Health Horizons Program has developed this Toolkit as a companion piece to ITF's *Open Health Map of Disruptive Innovation* (SR-1117A). The Map shows the larger context of forces driving open innovation in the global health economy. The *Open Health Toolkit* (SR-1117B) provides an overview of key issues you will need to address in adopting Open Health, details of the six-step process we have developed to help you implement Open Health strategies, exercises you can use to think through the application of each step, and our Ten Principles of Open Health.



HEALTH HORIZONS PROGRAM
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DEVELOPING AN OPEN HEALTH STRATEGY

The *Open Health Toolkit* is intended to help you recognize opportunities and design open innovation strategies to meet the competitive challenges of the global health economy. Before getting to the specifics of the six steps involved, it is important to understand the framework of the process and consider how to best implement it.

The Internal/External Framework

Developing an Open Health strategy requires thinking and working within and outside the boundaries of the firm. The internal/external aspect of the Toolkit's framework refers to these boundaries. The first three steps in the process (see illustration)—creating the culture, developing the skills, and identifying participants—take place internally. The company works with people with whom it has an established and trusted relationship. Internal participants include all employees (not just the innovation team), customers, and suppliers—in short, the company and all its networks. The external part of the process (steps 4-6)—assessing confidentiality and risk levels, leveraging tools and platforms, and determining the type of solution required—means working with people and groups outside the company and its trusted networks, many of which may be completely unknown to the company at the outset. Finding these external sources of innovation is the critical task of Open Health. Working on your internal innovation process first will help you develop the skills, expertise, and questions to bring in the right sources of innovation from outside of your organization.

Creating a culture of openness often means changing the organization's core values to acknowledge new sources of innovation outside the company's traditional boundaries.

1. CREATE THE CULTURE
Focus On Openness

The New Innovation Funnel
Source: Henry Chesbrough, *Open Innovation*, 2006

New skill sets must be envisioned, valued, and developed.

2. DEVELOP NEW SKILLS
Ask the Right Question

- PROVOTATION
- PING QUOTIENT
- OPEN AUTHORSHIP
- COOPERATION RADAR
- MOBBABILITY
- LONGBROADING

Identifying participants means opening your boundaries to find the right people to collaborate with—whoever and wherever they may be.

3. IDENTIFY PARTICIPANTS
Extend Your Reach

internal



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GETTING STARTED

In order to get the greatest benefit out of working with the Toolkit (particularly steps 4-6), you should have a general sense of the specific innovation challenge(s) your company faces. For example, perhaps you are a food company that wants to offer a new line of vegan frozen pizzas. You need to develop a suitable cheese substitute that imitates the texture, taste, and consistency of mozzarella. Or perhaps you are a major pharmaceutical company that is seeking a rigid plastic for blister packs that is fully biodegradable and changes color when exposed to extreme heat. Or you are a major health care provider looking to expand into the cardiac care market, but you need operational expertise in order to succeed.

Whether you end up seeking a solution to a challenge like one of these from those in your trusted network or from unknown collaborators, you must provide motivations and incentives. To do so, you must pose a real and relevant challenge, not a hypothetical or theoretical one; and you need to appropriately value a solution to adequately reflect the challenge's complexity.

We recognize that implementation of Open Health may involve a fundamental shift in how you approach problems and challenges related to innovation. It requires that your organization promote a culture that values openness and an environment that allows it to look for unique solutions outside the firm. With that in mind, you are ready to explore the Toolkit's six-step process in greater detail.



STEP 1

For an Open Health strategy to succeed, the organization must have the right culture. Creating institutional support—setting collaborative goals, valuing and rewarding group contributions, and preparing employees for this new approach to innovation—will help smooth the way for Open Health.

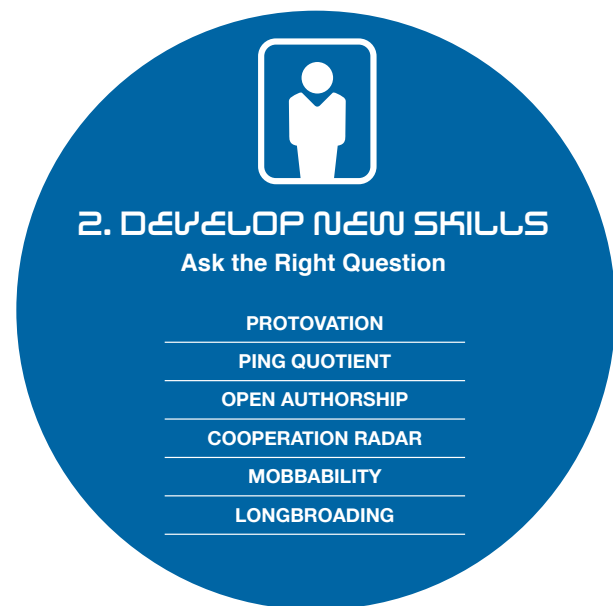
Procter & Gamble (P&G) is a good example of how the overall ethos of a company can help set the stage for open innovation. In response to the company's stock collapse in 2000, P&G CEO A.G. Lafley set a corporate goal of having 50% of new products come from outside the company. P&G's open innovation strategy (known as "Connect & Develop") has successfully achieved this mandate. P&G now proudly proclaims that its products no longer come from its labs; they come through the labs.

In corporate America, most employees have been trained to work as individual contributors and problem solvers. In an Open Health culture, however, employees must think of themselves as part of a team of solution finders. In order to be good solution finders, employees must be able to trust the process. And when changing their cultures to a more open style of innovation, companies must also provide their workers the security to take the risks required.

Part of establishing the culture is to offer a high level of recognition to the solution provider. Low-balling financial incentives can stifle participation, but recognition can be an even larger motivational factor than monetary incentives. Other non-monetizable rewards incentives may include altruism, feelings of duty to the community, and intellectual stimulation (what is denominated as learning and fun).

Exercise

Consider what changes you might need to implement in order to foster a more open culture within your firm. How would you revamp your organization's reward and recognition policies to promote team behavior and encourage employees to seek new collaboration partners in both untapped parts of the organization and in the outside world?



STEP 2

Not only must a company change its culture to embrace Open Health, it must also develop entirely new skills. First among these is the ability to frame the question—or challenge you need to solve—properly.

Whether seeking a solution from within a trusted network or from the outside, framing the challenge at hand is key to getting the best solution. Stopping to think about the question may seem trivial at first, but a well-defined request for assistance will improve the likelihood of success when seeking new sources of innovation.

In an Open Health environment, a range of other skills must also be valued and encouraged. IFTF has defined a set of next-generation skills. Among them are:

- **ProtoVation:** fearless innovation in rapid, iterative cycles
- **Ping quotient:** the propensity, ability, and responsiveness to reach out to others in a network
- **Open authorship:** creating content for public consumption and modification
- **Cooperation radar:** the ability to sense the best collaborators for a given task
- **Mobbability:** the ability to work in large groups
- **Longbroading:** thinking in terms of higher level systems and cycles—the big picture

These skills, taken together, can help organizations address risks and collaborate with non-obvious partners. They also contribute to the Open Health culture described in step 1 by encouraging the transition from individual recognition to valuing team-based innovation efforts.

Exercise

Create an iterative process by which workers and teams are introduced to the new skills. Have individual team members identify these skills in their colleagues. Then put together ideal teams of people for different innovation projects based on these skills.



STEP 3

Companies seeking to engage in a more open innovation environment can identify new participants by casting as wide a net as possible. As part of this process, it is necessary to reduce the natural bias of placing greater value on ideas from familiar sources and recognize that a whole range of otherwise ignored individuals, institutions, or organizations may bring fresh insights and perspectives to a given problem. This can't be done without the change in culture discussed in step 1.

To broaden its internal innovation networks, a company might reach out to its employees (especially those beyond the traditional R&D groups), customers, suppliers, and other known partners. A recent survey of CEOs conducted by IBM found that the top two in-house sources of innovation were the general population of employees and sales/service units, with R&D ranking third internally. The top two sources in their broader networks were business partners and customers. Kraft Foods has recognized the value of opening up its innovation network to include its customers, and has adopted "Innovate with Kraft," an initiative that encourages the submission of new product ideas.

As a company moves further toward implementing Open Health strategies, it may go beyond its trusted networks to seek sources of innovation from external, unknown potential solution-finders. These may include start-ups, entrepreneurs, independent scientists, academics, university labs, and so on, both domestically and internationally. At this stage, steps 4-6 become critical.

Exercise

Design a strategy for soliciting new sources of innovation beyond your organization's familiar candidates (i.e., your R&D group) but within your trusted networks. For example, consider reaching out to retirees; they may be an excellent source of solutions and would be motivated to stay current with their former employer. Rather than focusing on the background, education, or experience of potential participants, qualify them only on their ability to provide answers.



STEP 4

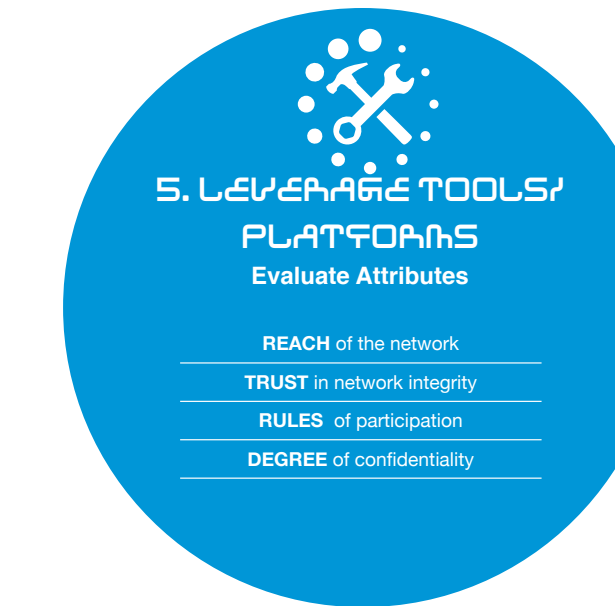
When adopting Open Health strategies, a primary consideration for any company is whether it can keep its intellectual property safe. To address this concern, a company must determine what level of risk and confidentiality regarding intellectual property it is willing to bear to bring in participants from outside of its trusted network. But in general, some risk must always be taken to get results; the more accurately the problem is framed (step 2), the more likely the risk will be worth the reward.

Companies can mitigate their risk by signing confidentiality agreements with prospective solution providers. Doing so at an early stage can reduce risk, but the results may be less sophisticated and the costs higher because more effort is required for the company to bring the less developed solutions to fruition. The more information you are willing to share up front with a potential solution provider, the greater the likelihood of a higher quality solution.

Open innovation lead to new forms of cooperation, even between competitors. For example, according to P&G, when it discovered a promising plastic wrap technology, it realized that it might achieve commercial success more easily if it collaborated with another company rather than by trying to become a new player in a well-established product category. P&G decided to partner with Clorox—one of its biggest competitors in the cleaning products sector—despite the risk involved in exposing some of P&G's intellectual property, future innovations, and new technologies to Clorox.

Exercise

Delineate the risk profile (high or low) of your organization in general and of the problem you are seeking to address in particular. Recognize that some confidential information will have to be shared regardless of the platform, then take an inventory of intellectual property essential to the problem. Finally, decide at what stage in the solution-finding process you want to share that information.



STEP 5

Several platforms offer intermediary services to meet the growing demand for open innovation. These include Intota, YourEncore, NineSigma, and InnoCentive (see sidebar). These platforms can facilitate Open Health strategies by managing the introduction of unknown parties. For example, when The Hershey Co. wanted to learn more about packaging, it turned to NineSigma, which posted a request on its Web site. The post yielded more than 50 responses, including those of an Asian furniture expert, a fashion and design maven, and an expert in teen demographics. The NineSigma platform identified potential solution-finders who had broad perspectives on packaging and design and also understood consumer preferences.

Each innovation platform has developed a different approach to confidentiality, business models, levels of complexity, and other key differentiators. The extent to which a platform ensures the integrity and honesty of its participants (on both sides of a challenge) is an important consideration. Some platforms may have more stringent rules of participation or may require acceptance of strict agreements before a participant can post a challenge or submit a solution. Evaluating the attributes of the platform and types of services it provides will help you engage with external partners in a safe and effective manner. A company may choose to work with one platform for a particular challenge, and with another platform for a different one.

In some cases, a company will bypass the services of these platforms and directly seek out open innovation partners. Unilever allows anyone to submit proposals for products, technologies, and new business opportunities on a non-confidential basis, via its Web site, ideas4Unilever.com.

Exercise

Identify a current challenge that your company faces and decide which platform would best help you find a solution to the challenge. How would using that platform address the risk profile of the challenge and the level of solution required (see step 6)?



STEP 6

The framework for open innovation offers four basic solution types: expert partner, traditional requests for proposals, non-validated theoretical solutions, or validated proven solutions. Companies must determine which type of solution will best suit their needs.

Each solution type carries with it a certain risk profile for the solution-seeker and solution-provider. The more a company seeks a fully developed solution, the more it may have to risk exposing some of its intellectual property. However, confidentiality can still be protected if the challenge is presented in just the right way.

For example, Eli Lilly posted a drug development challenge anonymously on InnoCentive in order to address some of its concerns about confidentiality. However, Lilly was still sensitive to the risks involved in showing its hand if it shared all of the information related to its project. The company was able to frame the challenge so that it only revealed the more narrow parameters of the particular intermediate step at issue. Doing so helped ensure that the request would not be easily identifiable with a particular company, market, or target compound. A retired chemist with his own laboratory developed and validated a solution to this intermediate step without promise of reimbursement (thus, at some risk to himself). He was eventually rewarded the success fee for this challenge.

Exercise

Take the challenge identified in step 5 and determine which solution type would best resolve that issue. Keep in mind the extra resources the company may need to implement the idea or bring the product to market.

Examples of Open Innovation Platforms

For companies pursuing an Open Health strategy, the following platforms provide opportunities to work with external participants. Each platform offers a different approach to confidentiality and solutions.

Intota users fill out an Expert Request Form, which outlines the nature of the request. Intota then matches the company's request with their qualified consultants. All exchanges of information are carried out without confidentiality restrictions. Only when the two parties meet is there the possibility of exchange of confidential information. Intota charges a fee for all successful matches.

YourEncore was first established as a private, retiree network for its founding members (Eli Lilly, Boeing, Procter & Gamble, and General Motors) to collaborate with their former employees. The network has since opened up to include any willing participant. Experts are paid an hourly rate as YourEncore employees, with YourEncore collecting a portion of the hourly rate as commission. It also charges the requesting companies a fee to join and post questions.

NineSigma provides a Request for Proposal/Request for Quote service and uses a proprietary web crawling technology to solicit responses from experts all over the world. All postings and replies are nonconfidential, but the identity of the posting company is usually kept confidential (some postings will identify the company seeking a proposal). If the company accepts a proposal, then the identity of the winning author is revealed.

InnoCentive, established by pharmaceutical giant Eli Lilly in 2001, allows companies to post nonconfidential general requests seeking either a theoretical or a validated solution. Anyone interested in offering a solution must agree to keep confidential any further information disclosed. Full details of the request are then revealed to the potential solution-provider. InnoCentive requires that all challenges be posted anonymously, so the solution-seeker's identity is not immediately associated with a given company, market, or target application. Once a company deems a solution acceptable, InnoCentive secures any applicable rights to the solution on behalf of the company. At the end of the process, the company will receive a solution, the rights to the solution, and the identity of the solution-provider.