



## DEFINING SUCCESS IN OPEN INNOVATION



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Frank Evan joined NineSigma in 2005, bringing with him more than twenty years of management and consulting experience helping businesses address critical growth issues—managing profitable client-partner relationships, heading multi-organization, cross-functional teams, and managing multi-million dollar projects. Evan was Associate Partner at IBM Business Consulting Services, and ran a P&L at Keane, Inc. where he created a new e-Solutions consulting practice and had responsibility for a \$15M+ business unit. In his current role, he works with innovation-focused companies across industries to implement value-based open innovation strategies that fuel growth in new product and service development.





## Defining Success in Open innovation

### Executive Summary

When a global beverage company wanted to reduce the cost for cleaning bottles, they used open innovation to find and acquire an innovative new technology from a company that reconditions catalytic converters. Prior to launching an open innovation strategy, internal efforts over an extended period of time, as well as discussions with current industry partners, had proven fruitless, as the company was unable to find a comparable breakthrough solution. As companies continue to contend with difficult economic conditions and competitive landscapes, they are faced with important business questions regarding innovation – can we be successful operating as we always have, or do we embrace open innovation?

Traditional innovation models can be expensive, and as a result, success is truly measured only in bottom line revenues. When innovation efforts do not produce expected results, companies are quick to rescind support and then steer internal resources back to more conservative methods. In this model, a company absorbs all of the risk with product development. They are responsible for the entire product lifecycle, from generating new ideas, validating markets, developing the product and then getting the product to market. Whether in prosperous times or more challenging times, it may not be feasible or fiscally responsible to absorb all the costs and assume all the risk of traditional research and development. While many companies cannot afford the extensive trial and error that is necessary to enhance a current product or to build a new one, there is likely a member of the global innovation community that can provide a solution or at least reduce the time and effort.

Reaping rewards from open innovation takes time, and while success certainly includes revenue growth and cost savings, open innovation delivers other measurable, accumulative benefits across the company. The following paper outlines a few ways that NineSigma's customers have extracted value from participating in the open innovation marketplace.

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## Areas of Success

In its 2004 monthly corporate magazine, Philips Research wrote,

*“The concept of open innovation is a radical departure from the traditional model of closed, in-house innovation. Open innovation embraces the idea that there are a lot of clever people doing clever stuff outside your own company, and tapping into that increases the effectiveness of innovation efforts by allowing the company or individuals to concentrate on the things they excel at, while opening new outlets for R&D efforts alongside the company’s own business goals. Open innovation helps in setting widely accepted standards and preparing the ‘landing ground’ for new technologies in the market.”<sup>1</sup>*

**A**lthough not a new concept, open innovation is considered one of the most important concepts to hit business in years. Considering the global economic climate, the timing and interest in open innovation could not be more apropos. Companies are intent on finding ways to manage costs without having to reduce their innovation efforts. Unfortunately, failure in innovation can be expensive. The combination of high potential for failure and lack of new internal ideas have led many companies to shy away from investing in innovation or to be quick to shelve new ideas. In open innovation, the risks are shared, as companies with great ideas can leverage external resources to take their ideas from concept to reality, removing barriers or challenges and pushing forward with innovation efforts in literally any economic climate. Like Philips suggested, open innovation is a radical departure from the traditional model. It’s about looking at one’s business differently from a variety of different perspectives.

A recent report by Aberdeen Group suggested that, “Fundamentally, open innovation is all about capitalizing on not only the ideas of others, but deriving benefit from ideas that your organization does not currently have a use for that others might. So whether it’s licensing the intellectual property that you own to others for use in their product development efforts, or obtaining licensing rights to the IP of others to be used in your product development efforts, open innovation is all about putting the right ideas into the hands of the right people in order to develop a commercially viable new product or service.”<sup>2</sup>

For open innovation to work, often an internal culture shift needs to occur, while the needs or challenges must be identified and defined and then placed into the right hands. NineSigma helps Global 1000 companies establish an internal structure, discipline and culture that will help them to be successful in the open innovation marketplace. At the core of NineSigma is a proprietary process that establishes the open innovation framework. NineSigma’s Request process defines and communicates clients’ business or technology challenges to a broad community of innovation providers around the globe from multiple industries and technical disciplines. Solutions include everything from upstream research to co-development. From these global collaborations, NineSigma and its customers have identified several ways to measure or define success. The following sections will discuss three of them.

1. Financial
2. New Opportunities and Connections
3. Knowledge

## Sealed Air Corporation: Innovating to Impact the Bottom Line

Parts of Sealed Air have long histories of working with external partners to solve business challenges. With growing global competition, particularly in the food packaging part of our business, we were seeing that we were no longer the technology leader that we once were. We needed to innovate faster, which would require more resources. With internal resources unavailable, we decided to follow the lead of other areas of our business and search for a development partner. NineSigma was our starting point for open innovation because of its focus on co-development, and ability to connect us with new technical capabilities and broader skill sets.

We identified 10 challenges that we wanted to present to NineSigma's global network. We expected that two out of the 10 challenges would produce promising solutions. Each of the 10 was carefully selected based on business unit importance and an ability to provide significant new business opportunities for Sealed Air. Again, if we got two out of ten, we felt that we would receive a good return on our investment with NineSigma. But, less than a year after issuing the Requests to the global community, we have received six responses that have a reasonable expectation of being funded for further research and development. The fact that we tripled our initial expectations and have identified new pathways to address some important problems is a positive indication of success. We will continue to work with these six solution providers to determine whether their approach to our challenge will become commercially viable.

Open innovation had produced good financial results for certain segments of our business, and proven to be more cost effective than establishing new internal research assets. All business units of Sealed Air are now participating in open innovation with NineSigma, and we have already been linked to solutions that we are supporting with funding. As we move forward, we will define longer-term measures of success. However, the quality of responses, breadth of reach, potential for shorter development times, and the targeted connections we have made to date, certainly validate NineSigma as an important development partner for Sealed Air.

Blaine Childress  
Research Scientist  
Sealed Air Corporation

## Financial

Open innovation is about helping companies find new ways to make money by thinking and looking outside the proverbial box to discover breakthrough opportunities beyond traditional corporate boundaries and networks. One of the benefits of open innovation is that, in most cases, it will cost less to generate solutions or new product concepts. By turning to the global community for help, companies can find ready-made solutions that can enhance or fill voids in current products, as well as spark new product ideas.

The goal of open innovation is to rapidly acquire new knowledge to dramatically shorten the product development lifecycle and deliver new, high value products to customers faster than the competition. Procter & Gamble, for example, is a pioneer of open innovation. Today, P&G has 23 billion dollar brands, 20 \$500 million brands and invested more than \$2.2 billion in innovation last year. During a December 2008 analyst call, A.G. Lafley, CEO of P&G, reported that 50 percent of the company's innovations today are developed with outside partners, compared with 15 percent six years ago. In 2003, revenues for P&G hit \$43.37 billion. In 2008, P&G reported revenues of \$83.5 billion. Meanwhile, P&G's R&D budget grew from \$1.92 billion to \$2.32 billion. But most importantly as a percent of revenue R&D went from 4.8% to 3.4%.

For the sixth largest company in the United States, it is clear to see the financial benefit of open innovation. P&G is not alone, as companies such as Sealed Air, Xerox, Schlumberger and others continue to leverage external partnerships to help extend revenue opportunities.

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## New Opportunities and Connections

**F**inancial benefit is an obvious place to start to define success. However, many companies point to the opportunities and connections, intended or serendipitous, which come from participating in the open innovation marketplace.

When it comes to an idea, Richard Watson stated in a 2007 Fast Company article, “Nobody can ever know for sure what will work and what won’t, until an individual makes a leap of faith and a surge of innovation is unleashed. Moreover, nobody can tell what’s silly and what isn’t without the benefit of hindsight. But with open innovation, researching and worrying about whether something will work or not is unnecessary because of the low cost of trying. Just do it and you’ll find out.”

The ideas generated by tapping the global community frequently present new opportunities for companies. In many cases, the ideas extend beyond for whom and why the original request was initially published. A typical NineSigma Request generates several responses from a broad cross-section of the global innovation community. Within each of the responses are solutions and applications that are products, services and approaches that potentially could solve a business or technology challenge. In the Sealed Air example, the company was expecting to receive viable solutions to two of the ten challenges issued to NineSigma’s network. To date, six solution providers have a reasonable expectation of being funded by Sealed Air for further research and development.

A request for a solution intended to solve one challenge may generate ideas for products that are outside the scope of the original technology challenge. And a solution provider responding to a company’s call for help may lead to a partnership with another department that had nothing to do with the original request. In some cases, as a result of participating in open innovation, companies will find unexpected, yet fortunate discoveries.

For example, for the past several years, Nami Research, a small engineering firm in Virginia, has used NineSigma’s Request process to find new business opportunities, responding to projects sponsored by companies such as Hamilton Beach. While none of Nami’s original responses were selected as possible solutions for Hamilton Beach’s projects, the company was contacted by a project leader who had heard about Nami’s experience in noise reduction technology. Nami had worked on noise reduction technology for defense applications, but nothing specific for the consumer market. After learning about Hamilton Beach’s requirements for reducing noise for consumer and commercial blenders, Nami’s engineers used their experience to develop a prototype for a blender. It was a valuable connection that has the potential to solve a technological challenge that all users will benefit from, creating new business opportunities for both the technology seeker and the solution provider.

## **Xerox Corporation: Measuring the Worth of Relationships**

When it comes to defining or measuring success in open innovation, there are a number of factors that come into play. Among the key factors for Xerox is fully understanding the motivation for reaching out to the global community, as well as the nature of the challenges and the impact that any potential solutions will have on our business.

The nature of the challenges could vary from requiring tactical solutions to solve immediate problems, to strategic technological solutions applicable for the entire platform, to developing fundamental understanding for future business opportunities. The answers to these questions are critical when determining whether financial success is the driver of open innovation.

The biggest value that we have gathered from most, if not all of the open innovation projects we have participated in with NineSigma, are the relationships that we have made with global solution providers. Relationships are the key enablers for the concept of open innovation, as there are business implications beyond the initial RFP response. The potential value of these relationships include competency enhancement, new ideas and business models leading into new and adjacent markets, and reduced cost and delivery time.

For the projects we have explored with NineSigma, the knowledge gained about the capabilities of the solution providers is very significant. These solution providers are now in our database and can be accessed by broader Xerox community for future needs. As an example, Michigan Molecular Institute (MMI) was originally introduced to us through a NineSigma RFP. MMI continues to support our open innovation efforts beyond the original scope of the challenge.

Santokh Badesha PhD  
Xerox Fellow and Manager Open innovation  
Xerox Innovation Group  
Xerox Corporation

Today's focus on social networking has never made it easier to expand one's personal and professional networks to include people from around the world. Never has developing the right network of resources been more important for businesses as well. For many companies, their networks are limited to a core group of customers, partners and suppliers and broadening those networks can be difficult, slow and expensive while others simply don't know where to begin. Open innovation is about finding the resources outside traditional corporate circles that can bring new ideas and opportunities to stimulate product development.

NineSigma provides companies with access to a growing network of solution providers from around the world. NineSigma's affiliate network includes more than 2 million members representing a variety of domestic and international trade organizations. Whether it is an individual entrepreneur or a large industry association with thousands of members, new connections can help to expand companies' reach beyond their current networks.

These networks and relationships provide companies with valuable partnerships that will help to fulfill the ultimate goal of open innovation, which is to find viable products to take to market and help generate revenues. Companies such as Rolls-Royce leverage relationships with more than 25 universities from around the world while pharmaceutical giant Novartis also uses a network of university start-up alliances to bring in roughly 50% of its new molecules and candidates. Xerox is also finding relationships to be a core benefit of innovation. The example shared in the sidebar emphasizes the value of an external partner, particularly one that has core expertise to solve a variety of challenges.

## Schlumberger Limited: Building Knowledge for Long-Term Gain

Schlumberger is looking to develop geothermal energy solutions. The geothermal energy field is adjacent to our core area of expertise in oil and gas exploration and production. With operations around the world and 80,000 employees, it was difficult to assess the knowledge that we had acquired to date. Before embarking on a path to align current technologies with geothermal energy solutions, we first had to identify what we already knew.

We engaged NineSigma to conduct internal knowledge mapping as a first phase. Specifically, NineSigma was to map and aggregate internal knowledge across multiple divisions and locations. The NineSigma Intelligence Team began by interviewing key people and conducting extensive research on the topic. A critical part of the process was NineSigma's coordination of cross-company meetings that brought together people who each had a stake in the project.

Through primary and secondary research, including key stakeholder interviews, the NineSigma team was able to provide a clear assessment of our knowledge in the geothermal energy area in order to make a strategic decision on how to move forward. NineSigma also evaluated white space opportunities and focus areas for potential business. Phase 2 of the project will include the evaluation of external technologies to align with our internal capabilities, which will allow us to develop the best approach to entering this new market.

Tapping the global innovation community for solutions and expertise in any given technology area is a necessity these days. It is equally important, though, to get a clear picture of the information and knowledge that has been built in-house. We found the NineSigma Intelligence program particularly helpful in getting us quickly up to speed on our internal knowledge on geothermal energy. We have some strategic decisions ahead of us, but the NineSigma program helped get us to the point where we can make the best decisions possible.

Rod Nelson  
Vice President  
Schlumberger

## Knowledge

The open innovation process creates a knowledge base that can be used to support a company's immediate needs, as well as long-term innovation efforts. Building a strong knowledge base is important for companies that are interested in accelerating their open innovation efforts and developing high value next-generation products and service for their customers.

Knowledge is generated through all phases of the open innovation process such as:

1. Defining your most critical needs
2. Communicating with the global community to gather proposals providing new insights from many different industries
3. Discussing and evaluating the merits of multiple solutions from global community
4. Licensing and partnership negotiations that create broad based wins for you and your customers
5. Joint prototype development through to the delivery of new solutions to your customers

Organizations that have used open innovation initiatives are likely to receive responses from a broad base of solution providers, and may contain information that could help resolve multiple business challenges. As companies assess the responses and discuss multiple approaches with solution providers, they will gather data that will provide immediate assistance and will provide them with knowledge that they can use for multiple further open innovation efforts. They are also likely to discover additional capabilities among their solution providers, as well as partners that can help them in the future.

Even after a solution provider has been identified, negotiations for licensing, prototype and product development and other open activities along the open innovation path will create knowledge for your team beyond expectations. This data, which once existed in disparate, out-of-reach repositories around the world, now resides in the hands of companies to be applied and leveraged for current and future product development opportunities.

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## Conclusion

While more companies are benefiting from the value of open innovation, many are still uncertain how to measure the success of their efforts. As NineSigma has learned during well over 1,300 projects with dozens of large companies, success can be defined in multiple ways. The open innovation process is focused on finding answers to tough questions and solutions to problems, which will allow companies to speed up product development and expand opportunities in the marketplace to drive revenues. While market share and revenues generated from a new product may be the ultimate prize, companies can find measurements of success throughout the open innovation process. From clearly defining the problem, to publishing the need to the global community to negotiating licensing rights and working in tandem with a solution provider on a product, the process creates opportunities, knowledge and connections that inspire innovation and better position companies for success in both the short and long-term.

As companies begin the open innovation process, understanding how to define success and what other benefits they can gather from engaging with the global community will encourage them to analyze and capitalize upon each stage in the process, each response to their published challenge, each solution provider and each licensing negotiation. Tracking and building upon past successes will help to reduce risk while providing companies with the data, connections and resources to ensure a continuous flow of new and successful innovations.



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<sup>i</sup>Philips Research, "Open innovation," Password, Issue 19, April 2004, pg. 3

<sup>ii</sup>Rowell, Amy, "Open innovation: The New R&D Paradigm Driving Profitable Product Development," Aberdeen Group, September 2008, pg. 3,  
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<sup>iii</sup>Watson, Richard, "Open innovation and other Foolish Ideas," Fast Company, April 2007,  
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<sup>iv</sup>Innovaro, "Innovation Briefing 07-06: Open innovation,"  
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