

Carlos J Barroso
President

Article II in a series

An Open Innovation Primer

This is the second in a series of “how-to” articles for getting value added results with an open innovation approach to research and development in the food and beverage category. Written from hands on experience and a strong knowledge of the open innovation space, the previous article covered both how to get started and how to set the strategy. In this article we’ll discuss the process of soliciting proposals for external research partners. The remaining series will address:

- Filtering proposals and getting to contracts with research partners
- Managing a network of external partners including weeding and feeding

About the Author

Carlos Barroso is a highly experienced, international Research & Development Executive in consumer products, with deep experience in Foods and Beverages. He has built an extensive, open innovation network with external research partners across universities, suppliers, consultants, and small entrepreneurs located around the world.

Carlos is the Founder and President of CJB and Associates, a high level R&D consulting firm specializing in Product Development for the Food and Beverage category. CJB and Associates manages open innovation projects, conducts Innovation Assessments, creates Quality Assurance programs, and facilitates innovation and strategy ideation sessions as well as helping with high level R&D strategy. He is co founder of Tastemakers Research Group, a full service consumer product testing company.

Prior to starting his consulting firm, Carlos was the Senior Vice President for R&D for PepsiCo’s \$27 billion global food and snacks business. Before joining PepsiCo, Carlos was an Associate Director of R&D at Procter & Gamble. In addition to R&D he has Market Research experience in consumer product testing.

Soliciting Proposals For External Research Partners

This article will discuss various options and tools for finding research partners. The content is mostly drawn from personal experience with CJB and Associates and corporate experience as the SVP, R&D PepsiCo Global Foods.

Proposals or “requests for proposals” (RFPs) are the written briefs that are used to communicate to potential partners and invite them to respond with a proposed course of action. RFP’s are common in the Purchasing function where buyers state their needs and suppliers bid for the business. While cost is usually a primary driver, a buyer will consider many factors such as quality, reliability of service, financial solvency and the capability for supplying other needed goods and services. Many of the same principles will apply when looking for research partners. In fact, the Purchasing function should be a valued part of the project team. They may not have the technical depth of an R&D expert but they understand the process of soliciting bids and negotiating contracts.

Options for finding a pool of potential research partners

You have your project team assembled, success criteria articulated and communicated and a budget to cover at least the first phase or about six months. Congratulations! You are ready to begin the process of soliciting proposals from external research partners. Now what?

Start with your own internal experts.

At smaller companies with limited resources it may be obvious who the experts are, if there are any at all. However, in larger organizations or organizations with high turnover or geographical dispersion it is too easy to overlook expertise that resides internally. It can be especially hard to reference expertise from just a few years ago. Too often, when we're working with clients we'll be referred to previous work only to find there is no written record. The institutional memory of the organization is often too vague to be of specific help. Nevertheless, internal expertise is the logical place to start. Hopefully, your company has reasonably good record keeping and experts who can give you the benefit of previous experience. The process of tapping internal expertise varies enormously across organizations. In many R&D groups it's as easy as an email blast to the R&D team or a search through their on line intranet archives.

Locating internal knowledge in more decentralized teams may mean spending time on the phone and chasing down leads. For example, on a recent project, the client was aware of some work that had been done before and referred us to a colleague in Europe. We contacted the colleague and learned that while the colleague was familiar with the work it was really a purchasing team member located in another country in Europe who had the experience. This eventually led us to a supplier where we went through a similar exercise until we finally found the background of the work in question. Further, by working with the R&D team at the client's supplier we were able to reconstruct in detail what had been done. This was fortunate because the client had no written summary of what had been done. In the end, it turned out to be a valuable lead and the client was able to leverage the previous work for their new project.

Use your suppliers' R&D

Procter & Gamble has stated that just by partnering with their top 15 suppliers they were able to create a network of 50,000 R&D scientists. When you consider that many of those scientists have additional networks of their own it's easy to see how a vast network can be built. In our experience, larger companies already use their suppliers' R&D capability reasonably well. For the most part it is passive on the part of the company. The supplier will typically make regular visits to the company and showcase their latest technology and capabilities.

We often see an opportunity to better utilize your suppliers by creating a stronger partnership with a select few and inviting them to be a more integral part of your longer-term innovation strategy. For example, at PepsiCo, when we became more forthcoming about our Health and Wellness strategy, a seasoning supplier with whom we had a strategic partnership referred us to an equipment manufacturer with unique technology for making a baked chip. There was not a direct benefit to the seasoning supplier. However, as a strategic partner they knew that what was good for our business would ultimately be good for them.

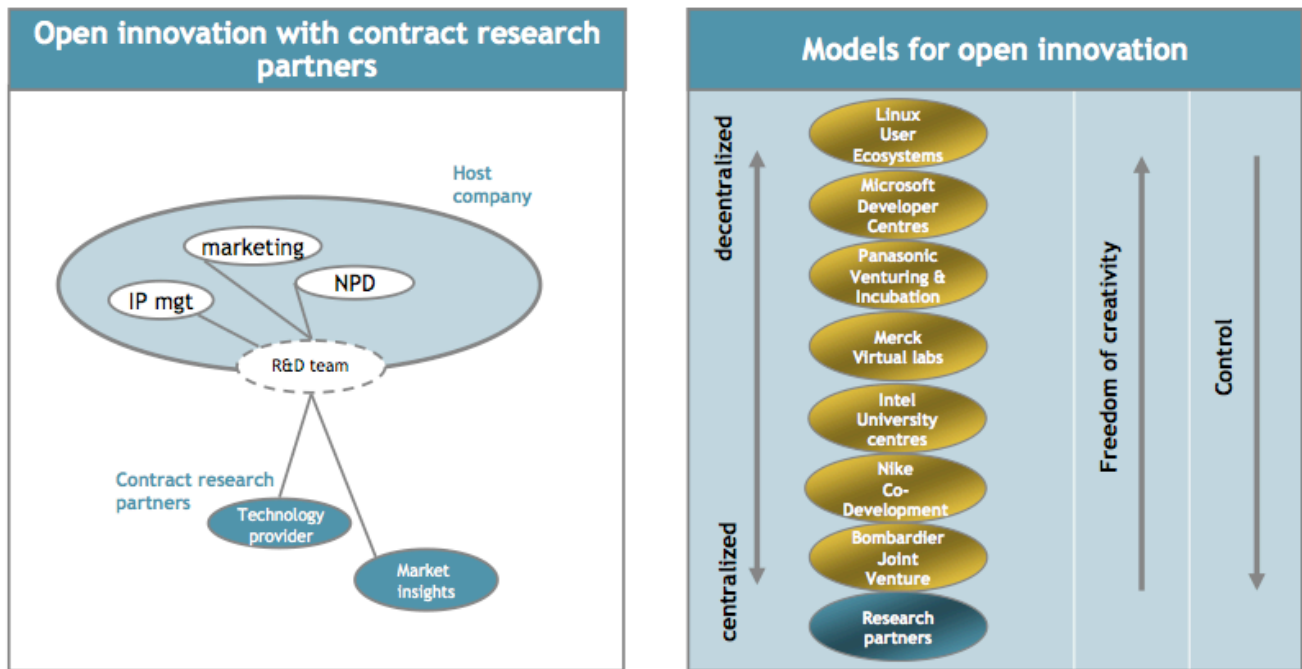
While suppliers are an easy way to effectively expand your R&D capability there are limitations. Suppliers will likely excel at providing close in solutions that are lower risk. It is less likely to find solutions from suppliers that come from outside their industry. Furthermore, any intellectual property will belong to the supplier if there is any. Be sure to think about exclusivity when leveraging promising technology from suppliers. At Frito-Lay International we had a very successful partnership with an frying equipment supplier on a specific technology because we established a contract early on stipulating that any use of the technology could only belong to us and in turn we would only buy the technology from that supplier. The

supplier agreed because the technology was as yet unproven and they needed a partner to put the effort into qualifying it. After 10 years the contract has remained in tact. The supplier has sold several fryers and the business continues to enjoy proprietary technology exclusive to them that gives them product superiority in several markets.

Organizing for Open Innovation

The diagram below (provided by Sagentia) provides a good overview of a typical Open Innovation model with contract research partners as well as a description of where several companies fit on a centralized vs. decentralized mode. The right model for your company depends a lot on your culture and how you're organized both in R&D and as a corporation.

There are many models for 'open innovation' - the most familiar involving contract research partners, though other models have been pioneered



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Leverage existing non-proprietary networks. (Innocentive, NineSigma, Your Encore, GLG)

Once you've explored research opportunities internally and with suppliers, the next step is to look outside. Fortunately, there are many tools available from a number of firms that specialize in open innovation work. CJB and Associates has personal experience with NineSigma, Sagentia, Innocentive, Your Encore, GEN3, Invention Machine, Oakland Associates, Gerson Lehrman Group, and our own global network consisting of research institutes, universities, suppliers and consultants. Choosing a provider for generating leads ultimately depends on the problem your are trying to solve and the expertise you need. The table below

provides a topline description of some of the firms we are familiar with. It is not meant to be an exhaustive compendium but should give an idea of some of the resources available.

Open Innovation Firms and Their Services

Name of Firm	Description of Services
NineSigma <i>www.ninesigma.com</i>	Has ability to send out RFP’s to over 9,000 external research partners. One of the most experienced open innovation companies with a list of clients that reads like the Fortune 500. Originally, NineSigma only offered searches with a promise of a percentage of the value of any resulting contracts. They now offer a choice of the option of a fixed fee.
Innocentive <i>www.innocentive.com</i>	Internet-based network of scientists, inventors and technologists. Innocentive sends out a challenge or a simple problem statement and awards the best or “winning” idea with a cash reward.
Your Encore <i>www.yourencore.com</i>	Your Encore helps companies solve problems by connecting them with retired scientists and engineers to leverage their expertise. You send out a brief of the kind of expertise you’re looking for and you get back a list of potential experts available for consulting.
Gerson Lehrman Group <i>www.glgroup.com</i>	Networks of consultants, physicians, scientists, engineers, attorneys, market researchers, and other professionals from around the world - over 250,000 individuals across multiple disciplines. They will identify experts based on a brief. A common application is for consulting firms to conduct phone interviews with experts as part of the information gathering phase of a project.
Sagentia <i>www.sagentia.com</i>	An innovation consulting firm with emphasis on technology development. Sagentia uses patent searches very effectively to identify potential research partners. They also provide product development and project management expertise as well.
GEN3 Partners <i>www.gen3partners.com</i>	Provides a range of open innovation solutions from identifying research partners to summarizing potential solutions and recommending actions. GEN3 offers access to global resources through its scientific and technical center and its proprietary network of thousands of scientists and engineers.
Oakland Innovation <i>www.oakland.co.uk</i>	Oakland Innovation is an innovation consulting firm that leverages open innovation to find external research partners and solutions to a technical problem.

Writing a proposal that will get results

Regardless of which firms or tools you choose to enlist any search will start with a problem statement or RFP. The RFP must be owned by the client for best results. As obvious as this sounds we have seen several cases where the client will delegate the writing of the RFP to the consulting firm. An outside firm can and should certainly help. However, only the client can describe what it is they really need help with and establish the success criteria. Here are some simple tips for writing an effective RFP.

Be specific. There are thousands of potential solution providers. The more specific your problem statement is the better chance you have of finding a partner who can add value. For example, if you want to improve the flavor retention in a pasteurization step, you need to be clear about what the problem is, the intended

applications and what success would look like. If it can be measured in “parts per million of volatiles” then that will be more actionable than a generic “better than current.”

What’s in it for the respondent? A good research partner will usually have plenty of work. Be sure to let them know what is in it for them. If you have a budget in mind state it (e.g. up to \$100,000 if engaged). There is a lot of debate about whether to reveal your company name. Typically, the RFP’s are not confidential so there is understandable caution about revealing too much. Our experience suggests that in practice the risk is low as long as you do not reveal trade secrets or truly proprietary strategy. For example, a food company that is looking to expand into health and wellness or meet the needs of aging baby boomers would not be a surprise and should not be considered risky. On the contrary, by getting the word out about where you’re looking for help may well lead to better unsolicited solutions.

Managing Intellectual Property (IP). In our experience leveraging open innovation is a powerful way to build IP and most research partners in our experience are willing to hand over all inventions as a result of the contracted work to the company. If they already own the technology they are usually willing to license it with a period of exclusivity. If the technology is already well proven and in use then chances are you were already aware of it.

Setting expectations for the partners. In your brief be clear about what the criteria for success are. Make the metrics clear. For example, if it is for a snack product the success criterion could be a 60 – 40 win in a paired comparison taste test with a base of at least 120. If it is a process improvement it could be a CpK < 1 in an extended pilot plant run and a yield improvement of 25%. Cost savings are relatively easy if it’s a matter of finding alternative materials or less costly processes. Be clear on timing as well. If the project is likely to be over six months, provide a milestone target within the first few months or even weeks.

Create “mini engagements” to allow candidates to demonstrate capability. Depending on the nature of the brief you may need to pay a potential partner just to give you a proposal that is tangible enough to make a decision with. For example, we often ask for, and sometimes require, prototypes as part of the proposal. If a candidate has what appears to be promising technology but requires time and resources to produce prototypes, this would be a very reasonable case where you would cover expenses. For example, with one client we found a dairy expert with a pilot plant with a promising solution for a juice product. For the proof of principle they needed to procure raw materials that aren’t normally stocked and had to do a thorough clean out before and after. We agreed to compensate them for the purpose of producing prototypes in order to make a proper evaluation of their technology.

Next Steps

Now you are ready to push the button and send your RFP’s out to the world. Welcome to Open Innovation! What happens next is one of the highlights of an open innovation project. Hopefully, you’ll start to see responses come in; maybe just a few, maybe several dozen or more. Some will be well known to you. However, in every project we have managed we always see a few that are a surprise coming from an expert we weren’t aware of or an industry outside of the category. Those are the exciting ones! Now comes the hard part. How do you winnow the proposals down to just a handful that you are willing to pursue? That is the subject of the next article in this series on open innovation.