

Opportunities for Action in Operations

Globalizing R&D: Knocking Down the Barriers

THE BOSTON CONSULTING GROUP



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This is the first of two articles on opportunities in global research and development. The second, “Globalizing R&D: Building a Pathway to Profits,” is being published simultaneously.

If the majority of companies know that global innovation is a significant issue, why aren't they acting faster to address it?

Although the movement of R&D and innovation to offshore locations continues to grab headlines, a recent survey by The Boston Consulting Group of senior executives worldwide found that, surprisingly, only 30 percent plan to increase their R&D efforts in China, India, and other “rapidly developing economies.” This despite the fact that more than 65 percent said globalization is already having a major impact on the way they innovate. (See *Innovation 2005*, a BCG Senior Management Survey, March 2005.)

Internal resistance—not the external world—is usually what slows, or even blocks, companies' attempts to move innovation activities abroad. Accordingly, to capitalize on the opportunities offered by global innovation—and those opportunities are real and significant—company leaders need to quickly identify and understand the barriers within their own organizations. Then they need to get on with it.

The Walls Within

In almost any organization, three big issues stand in the way of most efforts to globalize R&D and innovation initiatives. The first barrier is essentially political in nature. It is a matter of a misalignment between

the interests of certain individuals or groups and that of the company as a whole. For instance, many employees may feel directly threatened by offshoring R&D—often not without cause. Few activities are more central to the purpose and identity of a company than innovation, so many employees who are not directly affected worry that once these key activities move abroad, even partially, nothing of substance will be left “at home.” These human dynamics place top management under intense pressure not to move, despite the potential benefits.

The second barrier to action is psychological. Simply put, it is a matter of mindset—in this case, a propensity to worry more about control than about value creation. Few managers find it easy (and most find it very hard) to give up direct physical control of any activity, especially one so critical to growth and competitive success as innovation. The great distances involved in global R&D make the relinquishing of control especially difficult. Managers no longer can simply walk down the hall or across the corporate campus to work on a problem. Cultural differences are suddenly a much bigger concern. As a result of these and similar issues, many managers worry that their ability to influence innovation activity will become severely limited once it is moved offshore. In other words, many fear that while offshored R&D may be more cost-effective, it may be less effective in other ways.

The third barrier is essentially organizational. Effective innovation cuts across functions and divisions within organizations. As a result, moving R&D abroad raises a host of complex issues for operations, human resources, and information technology that take time to work out. Getting the linkages right and taking care of the many details are not easy tasks. So managers naturally want to proceed cautiously and with all due diligence. However, this means that decision-mak-

ing processes tend to be established in ways that dampen the required enthusiasm about the potential benefits and instead focus heavily (often, almost exclusively) on the risks. Balance is often missing as conservative assumptions generate higher-than-realistic probabilities of difficulties while minimizing potential benefits—and then discounting them even further. The result is that, in too many instances, worst-case scenarios effectively become the basis on which decisions are made. And so, from an organizational perspective, maintaining the status quo or moving slowly in small steps is seen as reasonable and responsible. The potentially greater risk of doing nothing or moving too slowly is forgotten or ignored.

Getting to the Heart of the Matter

Sending innovation abroad is clearly a major strategic decision, with a broad range of operational implications and challenges. Often, the first step to moving forward and overcoming the barriers is to take a step back—putting aside the lofty projections and latest news reports and revisiting the basic questions of whether and why to globalize your innovation activities in the first place. Although there are many important issues to consider, companies can start with three key questions.

How important are China, India, and other new markets to our future growth? Global R&D is not just about cost savings. Fundamentally, in fact, it is about growth. So begin by examining the real importance of China, India, and other rapidly developing economies to your future growth. Are your existing customers moving operations offshore? Where are the new customers you need in order to meet your growth targets? Will a significant portion of your market's overall growth occur overseas?

You may already have a sense of how much growth you need from new markets, but it is equally important to think through the implications of that requirement. Indeed, the irony of “global R&D” is that it is often made up in large part of *local* R&D to serve the needs of *local* customers. Automakers, mobile phone manufacturers, pharmaceutical companies, and many others are already focusing their offshored R&D in just that way.

What could we do with more engineers, more designers, and even more new ideas? Change the objective from cost savings to competitive advantage. How could you benefit from overseas R&D that is significantly larger in size (think in terms of five to ten times greater) than your present operation but costs the same? How would that change the speed and volume of your innovation? What could you deliver to customers that you cannot now? The quality of talent in rapidly developing economies can be world-class. For instance, in a recent global programming competition, Shanghai Jiao Tong University won the top prize, while MIT finished in a tie for twenty-ninth place. When the *National Business Review* asked an official from IBM, which sponsored the competition, how many of the winners IBM would hire, the executive replied, “As many as possible.”

On the other hand, what are the implications, over only the next year or two, if your competitors move faster and establish R&D abroad that is less expensive than your own, significantly larger, or both? One \$60 billion corporation recently announced plans to hire 2,000 local engineers over the next three years in the hopes that doing so would help double sales in China. If that company were your competitor, how would that change your relative position?

What risks do we really need to evaluate? Not all companies face the full range of risks. Moreover, many

risks can be mitigated—at least to some extent. The starting point for a balanced evaluation is an accurate assessment of the size and relevance of the risks to be faced. Take intellectual property, an area of constant concern in the press. How valuable and competitively differentiating is your IP, really? What will emerging technologies do to your IP and when? What protection will you be left with? What have your new local competitors already reverse-engineered and incorporated into their products (many of which you may be surprised to find you have not yet seen)? What have they patented already? At the same time, countermeasures also need to be considered. For example, you may be able to keep (only) the most sensitive items at home. In the end, the key question should be “Will moving R&D offshore really put my IP at significantly more risk than it already faces?”

Risk mitigation needs to be part of any assessment of true risk. Some risks affect all companies looking at globalization. One of the most important questions is whether you can manage the complexities of global operations effectively, both at start-up and on a continuing basis. It helps to find experienced managers who have been down this path and know it well: experience brought to bear can change the real risk profile. Finally, managing risk means taking on the right risks. Some companies have found that, at least in selected R&D areas, they can offset most of the potential offshore cost advantage through increased focus and productivity. Not everything will, or should, end up overseas.

Fast-Forward

The bottom line should be clear-cut. If China, India, and other rapidly developing economies are an important source of your future growth, if increasing your R&D capacity or intensity is competitively attrac-

tive or necessary, and if the real risks you will face are identifiable and manageable, then you must overcome the barriers preventing you from moving forward on global R&D.

Making the case for global R&D will always be controversial. In most companies, the debate is based as much on emotion as on solid analysis, in part because it touches on issues of personal, corporate, and even national identity. This is why the decision to “go global” must be based on a realistic assessment of the facts. Making that decision, when it is the right course, is a hard and often thankless task—and one that requires tremendous commitment. But even though the walls within are formidable, the rewards for companies whose leaders knock them down will be both substantial and long lasting.

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“Don’t Be a Schwinn,” BCG Perspectives, February 2005

The Central and Eastern European Opportunity: Creating Global Advantage in Serving Western Europe, BCG Focus, January 2005

Navigating the Five Currents of Globalization: How Leading Companies Are Capturing Global Advantage, BCG Focus, January 2005

Facing the China Challenge: Using an Intellectual Property Strategy to Capture Global Advantage, BCG report, September 2004

“Making Innovation Pay,” BCG Perspectives, May 2004

Capturing Global Advantage: How Leading Industrial Companies Are Transforming Their Industries by Sourcing and Selling in China, India, and Other Low-Cost Countries, BCG report, April 2004

“Innovating for Cash: Lessons from the Handset Wars,”
Opportunities for Action, January 2004

“Innovating for Cash,” BCG Perspectives, December 2003
(adapted from the authors’ article by the same title that appeared in the September 2003 issue of the *Harvard Business Review*)

“Boosting Innovation Productivity,” Opportunities for Action,
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