

Thinking for Breakthroughs

Ajit Kambil

An edited version of this viewpoint appeared in the Journal of Business Strategy 2007, Volume 28, Issue 5. Please contact [Emerald Insight Reprints](#) for permission to copy and distribute the final version of this article.

Whether you are a strategist or a thought leader, it is important to find breakthrough opportunities and strategies. For strategists, such ideas may involve differentiation of products, services or business models. The work of thought leaders includes the creation of thoughtful ideas, frameworks and research that offer senior executives powerful new perspectives on critical business issues.

Recently, I gave a talk in India to new members of my team on how to improve the odds of creating breakthrough work. I wanted to challenge my group to think differently, and I shared five strategies that have served me well over the years. These principles are rooted in my study of engineering and physics. When broadened, they can be useful to all strategists.

1. Attending to Anomalies

In 1992, I visited the Floriade, a flower festival that occurs every ten years in Holland. The scale of the festival and the industry in Holland surprised me. Why do the Dutch lead in this industry when natural resource factors such as land, labor, and weather would favor other countries? This led me to look at the entire system for competitive advantage and motivated work focusing on how the Dutch flower auctions, a key source of Holland's pre-eminence in the industry, would adapt to new technologies. This research culminated in a book on why electronic markets succeed and fail, and some key models around electronic commerce¹.

Surprises and anomalies like these have driven some of my most interesting work. Early in my research career, I was studying telecommunications investments inside a major technology firm. As I conversed with the CTO, he talked about his frustrations with the company's investment process and how he was classifying some investment costs as operating expenses. This observation of anomalous behavior led me to look at why it was so hard to justify technology investments, which became the impetus for the development of an early article on using real options to justify IT investments.

I find anomalies a source of inspiration to drive breakthroughs large and small. Interestingly, executives and researchers have a hard time recalling the most recent business event or observation that really surprised them. Our 24/7 media cycles and information-overload are desensitizing us to surprises. Companies invested in developing game-changing solutions should challenge the way they look at the world, taking a harder look at normal to find the abnormal. Anomalies illuminate the questions that lead to breakthroughs.

2. Pushing To and Beyond Limits

Another strategy I find useful was inspired by the story of Einstein, imagining he was riding a light beam at age sixteen. Could he travel as fast as light? Could he travel faster? By imagining thought experiments where he was operating at the finite limit of the speed of light, Einstein discovered the special theory of relativity and realized that time was not absolute but relative. By “pushing to and beyond limits,” he made significant breakthroughs.

In my work I often ask myself where I would end up if I push my current strategy to the limit. Is it a good space? And if not, what other direction should I go? In practical terms, if I am looking for the next breakthrough around a popular management idea like re-engineering, I would ask what problems would arise after I have successfully obliterated functional silos in favor of processes. This might result in a realization that it’s time to blow away process silos and disconnects through *synchronization* (a possible topic for a future column). Pushing ideas to the limit takes you quickly as a researcher or strategist to the boundaries you must break through.

3. Changing Coordinate Frames

In physics, one of the first things I learned in mechanics was the importance of choosing the correct coordinate frame for problem solving. Select the wrong one—such as the Cartesian coordinate frame for solving an angular momentum problem—and finding the solution becomes difficult. One useful approach I have benefited from is changing the coordinate frames on management problems.

The underlying coordinate frame that strategists or researchers take to problems can limit their perspective. For example, take Michael Porter’s work on competitive strategy and competitive advantage in the 1980s. Both the five forces and value chain models position the firm (rather than the customer) at the center of their models². Would either of these models naturally guide users to some of today’s most important differentiation strategies such as co-creation?

Now shift this around and begin putting the customer at the center of the value-creating system. In such a model, we might begin with the ways customers perceive and realize value. Then the strategic starting point for companies involves framing the five key interactions through which customers realize value from products and services: *buying, using, transferring, co-creating* and *integrating complements*. This shift in perspective enables innovation in each of these interactions and new vistas for differentiation not typically framed by a company’s value chain model. For example, eBay added tremendous value to how people disposed of assets. Similarly, companies like YouTube and Facebook exploit the principles of co-creation to create value³.

Systematically shifting the frame on conventional approaches and perspectives can form the basis for breakthroughs in thinking about management. While many executives are locked into a “war for talent,” my colleague Robin Athey is shifting the dialog in HR around talent management. By taking the perspective of employees and focusing on the forgotten middle space between hiring and retaining staff, she is creating a promising model of “developing, deploying and connecting” employees to make them more

productive and committed to organizations, reducing the time and resources wasted in recruiting and retention wars⁴. In short, looking at problems from the perspective of different stakeholders can lead to new avenues for breakthroughs.

4. Building on Prior Models

Most engineers prefer not to re-invent the wheel. They use the same shape but may tweak the materials, struts and treads to improve performance of a wheel under different conditions. Similarly, many modest or large breakthroughs can come from adapting existing models into new contexts. But this requires both researchers and strategists to be capable of adapting a diverse set of models and theories.

Classification models like the 2 by 2 Growth Share Matrix, or level or stage models such as Jim Collins's level 5 leadership⁵ are particularly liked by managers and consultants. Strategy and management research provides a rich set of diverse models such as diffusion, portfolio, event history, typologies, taxonomic, financial and real option models, etc. They also provide a rich set of theories to draw on from such as transaction and agency cost theories, game theory, resource based theories etc.

Prior theories and models are very useful in guiding new breakthroughs by providing templates to search for patterns in new data. Prior models can also help identify the variables critical to driving the structure or performance of new phenomena. In a recent study by our research team on convergence across drug, diagnostic and device industries, we built upon multiple models ranging from frameworks to invest under uncertainty to partnership models⁶. The resulting article helps executives frame a roadmap to navigate the challenges of convergence across industries. In short, familiarity with a wide repertoire of theories and models is helpful to pattern discovery supporting breakthrough ideas.

5. Abstracting Away the Hard Parts

Thinking for valuable breakthroughs is not easy and many problems are complex and multidimensional. When attacking large complex problems, a good approach is to solve them in parts while assuming that others parts are already "resolved." The power of abstraction as a technique was driven home in my first college course on the structure and interpretation of computer programs. Breakthroughs on large-scale systems and a system of ideas can rarely be developed efficiently without systematic abstraction. For example, I have been grappling with the notion of synchronization the mutual adjustment of separate processes as a follow on to re-engineering. Initially, I could not even clearly articulate the drivers of why synchronization is difficult. So I abstracted the hard parts away assuming I had solved them and focused on enumerating practical synchronization strategies in organizations. By putting the hard parts of the problem aside and solving the problems on the periphery, I was able develop a better understanding of the deep structure of the synchronization problem to eventually solve the hard parts. For hard problems, "black box" abstraction buys you the time and mental space for deeper understanding and potential breakthroughs.

Conclusions

Going beyond the typical brainstorming strategy to drive more disciplined approaches to thinking becomes imperative as companies and executives seek more breakthroughs. I believe the above five principles can enhance your odds of generating successful breakthrough strategies. But these strategies by themselves are unlikely to succeed unless the company is able to absorb, follow through and execute on the insights derived from deploying these strategies.

¹See Kambil, A. & van Heck, E. 2002, *Making Markets: How to Profit from Online Auctions and Exchanges*, Harvard Business School Press, Boston.

² See Porter, M.E. 1980, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, Free Press, New York and Porter, M.E. 1985, *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, New York

³ See: Kambil, A, Ginsberg, A and Bloch, M. 1996. *Reinventing Value Propositions*, Working Paper IS-96-21, Stern School of Business, New York University. Available at <http://hdl.handle.net/2451/14205>. Also see Kambil, A and Eselius, E.D. 2000. *Where the Interaction Is*, The Conference Board Review, Nov/Dec.

⁴ See Athey, R. 2005. *It's 2008: Do you know where your talent is? Why Retention and Acquisition Strategies Don't Work*, A Deloitte Research Report. Available at www.deloitte.com/research

⁵ See Collins, J. 2005. *Level 5 Leadership: The Triumph of Humility and Fierce Resolve*, Harvard Business Review

⁶ Eselius L., et al, 2007, *Managing Pathways to Convergence in Life Sciences*, A Deloitte Research Report. Available at www.deloitte.com/research