Book Reviews

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The Global Brain

Satish Nambisan and Mohanbir Sawney. Upper Saddle River, NJ: Wharton School Publishing, 2008. 276 + xxiv pages. US$29.99.

For many years, the development of innovative products has been touted as a shield against increased competition, particularly as the scope of that competition has become worldwide. Historically, in the pursuit of such products, firms have played the new product development game close to their vests, closely guarding information on new product development from outsiders. It was assumed that the firm in question knew everything in its area of endeavor and possessed the greatest capability for capitalizing on it.

Two different developments have shown that this firm-centric, not-invented-here assumption is increasingly counterproductive. The first was the publication of *The Innovator's Dilemma* (Christensen, 1997), which made a case for the fact that many significant innovations have their origin outside an industry and are often not recognized as competitive by that industry's members until it is too late.

Second, in recent years, developments in transportation and communication have not only promoted the development of worldwide markets but also have made it easier to draw on far-flung capabilities and knowledge that formerly were difficult or impossible

to access. The effect has been to undermine the critical assumptions of the firm-centric approach while making it possible for firms to create new products collaboratively by using a network-centric approach to innovation. It is this approach that the authors describe as "the global brain."

Network-centric innovation (NCI) is defined by the authors as ". . . an externally focused approach to innovation that relies on harnessing the resources and capabilities of external networks and communities to amplify or enhance innovation reach, innovation speed, and the quality of innovation outcomes" (p. 63). While the concept of NCI is not difficult to grasp, *Global Brain* provides a useful, comprehensive, and straightforward guide on how to implement such a program.

The authors develop a framework for this by describing four models of NCI, each based on the structure of the innovation space, whether this space is defined or emergent, and the nature of the network leadership. The four models, illustrated by real-world examples, are as follows:

1. *The Orchestra:* In this situation, the innovation space is relatively well defined, with a single, dominant firm serving as the network leader.
2. *The Creative Bazaar:* Where a dominant firm shops for innovations at various stages of development that are consistent with its brand and that it can commercialize.
3. *The Jam Central:* Typified by an improvisational, group activity operating in an ill-defined innovation space with no predesignated leader.
4. *The Mod Station:* Concerned with modifying or leveraging an existing product, process, or service, governed by the norms and values of a community rather than by centralized direction from a leader.

With these as a conceptual foundation, the authors devote to each model an entire chapter that discusses systematically the characteristics associated with each

you try, you'll assess it against the metrics you chose, and you'll keep tweaking it so that you continuously improve—or you'll drop it in favor of a new experiment" (p. 319). A 28-page glossary completes the book.

I bought this book because I was involved a few months ago in helping design the PDMA Foundation's New Product Institute website. We needed a clear and reliable guide for discovering customers prospective sponsors, and essential features for New Product Institute (http://www.newproductinstitute.org). We assembled a panel of practitioners and began a rapid conversation with them using a Web-based collaboration software, BaseCamp, by 37 Signals (http://www.37signals.com), as we tweaked the beta version of the site. After a month of iterative changes against a simple set of metrics, we went live with an improved version aligned with our sponsor's needs. This version was noticeably different from what the foundation's board members and the professional Web designer originally thought was needed.

What Moran does is provide a frame and self-help tools for new product developers, in any industry, who want to improve their work in the truth-seeking front end. His data-driven approach accepts that you will not always know the right thing to do, but just try something and let your prospective customers tell you how wrong it is—then fix it and try again.

Reference

Bonabeau, E., Bodick, N., and Armstrong, R. (2008). A More Rational Approach to New-Product Development. *Harvard Business Review* 86(3):96–102.

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Reinventing Project Management: The Diamond Approach to Successful Growth and Innovation

Aaron Shenhar and Dov Dvir. Boston: Harvard Business School Press, 2007. 276 + xii pages. US$35.00.

Reinventing Project Management looks at project management, and especially product development, through a new set of lenses that may make it a seminal work for the future. The authors provide a desperately needed depth of practical knowledge and understanding of product development and today's

project management environment in which more projects fail than succeed (Standish Group International, Inc., 2007). The theme of the book is based on four critical dimensions relevant to projects—complexity, technology, novelty, and pace—that are inherently challenging to manage. The authors' research supporting the proposed model includes a wide range of different types of projects that illustrate the efficacy of the model's value and its flexibility. Projects researched range from super high-tech National Aeronautics and Space Administration (NASA) missions and microwave ovens to financial software and animated movie projects and even to the Segway people mover, which is technically successful but yet to receive major acceptance in the marketplace.

The book's premise is that today's organizational success depends on projects. As the authors state, "No business enterprise can survive if it is only focused on improving its operations. Projects are the engines that drive innovation [and] are also the drivers that make organizations better, stronger, and more efficient" (p. 4). They emphasize that projects are everyone's responsibility and that the ideas presented in the book are not just for those involved in or new to project management: ". . . The evidence suggests [that] failure is often found even in well-managed projects that are run by experienced managers and supported by highly regarded organizations" (p. 6). Think about the failed NASA Mars missions, the nonacceptance of the Segway people mover compared with the iPod, and the myriad public projects that exceeded schedules and budgets by orders of magnitude, many of which were eventually abandoned. It may be a hard pill for management to swallow, but, as the authors clearly state, "most project problems are not technical but managerial" (p. 7). It should be no surprise then that gaining management's understanding of the value of, and their involvement in, projects is a major focus of the book.

The authors point out that a major reason many projects fail is the inability to identify the uncertainty and complexity involved when using traditional project management methods and tools. Traditional models, they say, work fine for projects that are well understood initially as to what is needed and how to achieve that need. In fact, for many projects, once a need is identified and a plan is made to address that need management takes a hands-off approach. The reason, therefore, that traditional project management models fail is a decoupling between projects and their business environment. This results in a gap

between the organization's management and the project teams, which too often have a sketchy view of the true business purposes for a project. The authors emphasize the need for a new framework to evaluate projects early in their inception to identify where, as well as what, requires the major focus of attention. They meet that requirement through what they call the diamond approach.

The diamond approach looks at the four dimensions of *novelty, technology, complexity*, and *pace* of a project. *Novelty*, as used by the authors, involves the uncertainty of the goal that is to be achieved and is an indicator of how clear or unclear the project goal and requirements are. Is the project about developing a new derivative, building upon an existing platform, or creating a breakthrough product or service? *Technology* describes the level of technological uncertainty involved and ranges from low to super high-tech. The *complexity* of a project, however, involves both the complexity of the product and of the organization involved, which is also described in the book. The measures of complexity range from an assembly of components to an array (i.e., a complex system of systems). Finally, *pace* is the urgency required for the project, or its time frame for completion. It is interesting to note that pace along with complexity are parts of the diamond approach model, and they are also part of the triple constraint model pervasive in traditional project management methodology (comprising cost, scope, and time) advocated by the Project Management Institute.

When the four dimensions of the diamond model are drawn on a standard x–y set of axes, connecting the values of the four dimensions with straight lines forms a diamond-like figure. Complexity is drawn to the left from the origin where the x–y axes cross, and novelty is drawn to the right on the x axis. Technology extends upward from the origin and pace downward from the origin. Adding scale measures for each dimension provides a means to draw the appropriate diamond for any project. For example, starting from an identified point on the complexity axis and drawing a line from it to the appropriate points on the technology and pace vertical axes forms the left side of the diamond. Repeating this procedure from a point on the novelty axis to the two points on the vertical technology and pace axes forms the right side of the diamond. This visual image of a project allows all project stakeholders to view the project in the same way and to evaluate the importance of each of the diamond's four dimensions.

The authors applied the diamond model to numerous completed and troubled projects and, using the insight provided by the diamond framework, found major discrepancies between how the projects were managed versus how they probably should have been managed. They describe their results in detail in the book, including both the projects' actual and recommended diamonds.

After making the case for this new model of project management and describing the diamond framework to meet that need, the second part of the book provides details about each of the four dimensions in its own chapter. This gives readers the necessary background about each dimension to use in describing their own projects in the diamond format. Putting the diamond approach to work for both operational and strategic projects is covered in part three of the book with applications to business innovation in organizations and in the marketplace. Numerous examples and stepwise processes assist the reader in applying the straightforward techniques involved in using the diamond approach. The authors state that traditional project management is "focused on time, budget, and performance goals [and] has missed a key point: that projects are always put in place for business reasons" (p. 205). The final chapter discusses reinventing project management in organizations with ample guidance on accomplishing this. An extensive appendix describes the research methods and findings and is followed by a notes section identifying the sources cited in the book.

Reinventing Project Management is a significant addition to the product development and project management literature and practice, with the four dimensions of the diamond framework seemingly intuitive but clearly supported by the authors' research. Of course, these four dimensions could easily be expanded to include other dimensions such as the remaining traditional triple-constraint dimensions of cost, scope, and quality. However, by their research findings, the authors show that misinterpreting the value of one or more of the factors of the diamond framework is often the primary cause of project failure. Anyone, from the highest levels of management to the lowliest of project managers, when faced with a challenging development project, will gain value from this book through a better understanding of the four dimensions of the diamond framework for evaluating the best approach for managing his or her project.

Reference

Standish Group International, Inc. (2007). Third Quarter Research Report. http://www.standishgroup.com

(The reviewer participated in a portion of the research on some NASA projects and is mentioned in this book's acknowledgments. However, he does not believe that this involvement has biased his review.)

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Selling Blue Elephants: How to Make Great Products that People Want before They Even Know They Want Them

Howard R. Moskowitz and Alex Gofman. Upper Saddle River, NJ: Wharton School Publishing, 2007. 252 + xvi pages. US$20.00.

Howard Moskowitz and Alex Gofman are with Moskowitz Jacobs Inc., a marketing and branding consulting firm. They begin with Dr. Seuss's Sam-I-Am and his aggressive trial-and-error, failing marketing plan for revolutionary green eggs and ham—"on a train," "in a car," "in a tree," "in a house," "not in a box," "with a mouse," "with a fox," and "in the dark" (Seuss, 1976). Nostalgically we can we all relate to that. But the authors quickly whisk us away from our bedtime reading to Rule Developing Experimentation (RDE)—the topic of this book. RDE is described as "a systematized solution-oriented business process of experimentation that designs, tests, and modifies alternative ideas, packages, products, or services in a disciplined way so that the developer and marketer discover what appeals to the customer, *even if the customer can't articulate the need, much less the solution*" (p. 3, italics in original).

The authors clarify the challenge: Consumers cannot articulate exactly what they need, want, or like. And they describe the solution: Identify and experimentally explore the factors that could drive consumer interest using systematically designed prototypes and combine features into the best possible combinations (even if consumers never tested those specific combinations). They offer seven straightforward steps: (1) Think through the problem and identify groups of features; (2) design the experiment using these elements; (3) gather consumer reactions to the prototypes; (4) analyze (individual) results; (5) optimize; (6) uncover attitudinal segments; and (7) "dial in" and generate rules to create new products. The result is actionable rules (directions) for sustained competitive advantage and the power of being able to know the algebra of consumers' minds before they can even articulate the need. The authors explain that the most difficult part of the job is structuring the problem; here is where domain expertise is required. They suggest that a culture of perpetual mindful experimentation is needed for continuous learning and thriving innovation that leaves the competition wondering of your strategies.

Next, the authors guide the reader through several proven success stories using RDE. Hewlett-Packard (HP) used RDE to sidestep conventional sequential batteries of focus groups and quantitative surveys (expensive, laborious, slow, and not sufficiently rigorous) to test and optimize new concepts among targeted consumers using a proprietary Web panel. RDE provided HP with the prospect of testing complex offers comprising several elements, allowing it to differentiate itself from the competitors. The most important task for them was to identify specific problems, to structure them, and then to put those features into the RDE Internet tool. Meta patterns emerged across multiple HP RDE studies yielding the benefit of additional consumer insights and segmentation opportunities.

Coffee globalization, competition, and bean prices led Maxwell House (MH) to RDE to maintain quality and to keep price within bounds. Audits (early warning signs) showed the product scored poorly. If other factors like advertising and promotion are equal, marketers, who recognize that, over time, flavor quality and preference may ultimately lead to market share, needed to fix the problem to increase share. The problem (unknown to MH) could be attributed to either quality slippage through continual cost cutting or possibly change over time in consumers' taste, which impacted preference. MH recognized that both the product and the consumer needed to be systematically studied. The developer varied the physical formulation, and researchers brought in the consumers to "crack the coffee code" (p. 39). Three segments were identified related to bitterness intensity acceptance, which allowed MH to develop a "dial-in," cost-based model to deliver on cost and quality, thus increasing sales 15% at the expense of competition.

RDE can be used to understand the competition's communication strengths and weaknesses by using content analysis of ideas to see which resonate with the consumers. An "ezine" (short for electronic mag-