

Successful Product Innovation

Introduction

New product success is vital to the growth and prosperity of the modern corporation. Look around! Companies that are doing well today boast an enviable stable of successful new products. Product innovation is king! CEOs continue to rate innovation capability as a critical driver for their future business success as they focus on increasing profitability and growth.

Developing and launching a steady stream of successful new products is no easy feat, however. It's certainly much more than proclaiming some ambitious new product goals and hoping the financial community listens. Many companies try, but only a few are stellar at product innovation. For example, only one product concept out of seven becomes a new product winner; on average 44 percent of businesses' product development projects fail to achieve their profit targets; and half of all new product launches are late to market. With results like these, no wonder so many businesses and their executives are frustrated.

There are exceptions, however. Some companies, like Apple, Procter & Gamble, Johnson & Johnson, Kellogg's, Microsoft, Hewlett Packard, Toyota, Sony and Pfizer, do make product innovation seem easy. They are the consistent winners, with one big new product breakthrough after another. But exceptional performance in product development is no accident – it is the

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

Stage-Gate® is a registered trademark of Product Development Institute Inc.

result of a disciplined, systematic approach based on best practices. So what are their secrets to success? That's what this book is about – a collection of readings and articles that outline best practices in product innovation, and how the stellar companies do indeed succeed.

The Best Really Shine – But Why?

One of the facts that stands out over the years in the many and varied investigations we have conducted is how much better than their competition the top performing businesses really are. The gap between Best and Worst performing companies is huge. The top performers deliver better results across the board on a number of performance metrics. Here is a sample of some of the results we have found in our years of research and consulting:

- An astounding 77 percent of development projects hit their profit targets in top performing firms. In poor performers, only one project in four achieves its profit targets.
- Top performers have an admirable 79.5 percent commercial success rate for development projects – double the success rate of poorer performers.
- Top performers achieve 38 percent of total sales from new products launched in the previous three years – four times that of poor performers.
- The great majority (79 percent) of top performers' projects reach the market on schedule (versus only 25 percent for poor performers).
- And the slip rate for top performers is remarkably low at 17 percent (versus a high of 44 percent for poor performers).

So the key questions loom: Why the huge gap between the best and the worst? Why do these huge differences exist? Are the best really that much better? Is it simply blind luck, or a couple of good years? Our research answers these questions. The evidence clearly shows that the differences are sustained

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

and consistent over time, and that it is traceable to key best practices that top performing companies use. The articles and readings in this book explain what these best practices are, including:

- What the secrets are to success in product innovation that these winning businesses share
- Why some businesses are so much more successful than others when it comes to new product development
- What best processes, methods and approaches they use that distinguishes them from the rest
- And why some new products are so successful, while the majority fail. And what these project teams did differently that led to their great success.

The Secrets to Success

Our research over the last thirty plus years has yielded many insights into the secrets to success and best practices in product innovation. It has also produced over 130 articles and papers in major journals and twelve books on the topic of product innovation management. One of the outcomes of this research into countless successful project teams was the Stage-Gate® idea-to-launch process.¹ This process was based on observing how successful project leaders and teams were able to develop big winners, and has become a game plan for success. The Stage-Gate process is now used worldwide by thousands of companies and has become the standard methodology for the majority of product developers. The second major result of this research is the creation of the Innovation Diamond™, a framework for executives to manage the various elements of a successful innovation effort for the business – see Exhibit A.

The Innovation Diamond provides the framework for this book. But first, some background: The Innovation Diamond was not created overnight. It evolved and emerged from a number of investigations into why some firms

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.



Exhibit A: The Innovation Diamond shows the four drivers of performance in product innovation – the common denominators of top performing firms.

achieve stellar new product results. In fact, the first “diamond” began as a triangle, the result of an extensive study of best practices in product innovation in the mid 1990s. That triangle identified three major factors that separated winning businesses from the rest:

1. Having a *new product process* that works – a template or tactical roadmap to drive new product projects to market quickly and successfully.
2. Having both the *right resources and sufficient resources* devoted to product innovation.
3. Having a *new product and technology strategy* for the business.

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

As the research continued over the subsequent years, one result was a much more comprehensive understanding of the success factors in product innovation. Eventually, the Innovation Diamond was created as a way to visualize these factors. Inputs from companies like Procter & Gamble helped, as they took our original triangle and fashioned their own innovation diamond, or as they call it, the Initiatives Diamond.

The Four Drivers of the Innovation Diamond

Four major factors or forces drive a business's new product performance, according to our studies, and are illustrated as four points of performance in the Innovation Diamond:

- 1. *Strategy*:** Top performing businesses put a product innovation and technology strategy in place, driven by the leadership team and the strategic vision of the business. This product innovation strategy guides the business's product innovation direction and helps to steer resource allocation and project selection.
- 2. *Resource investment and focusing on the right projects – portfolio management*:** Top performers commit sufficient resources to effectively undertake their new product projects; and they boast an effective portfolio management system that helps the leadership team effectively focus these resources on the right strategic arenas and to a short list of high-value projects.
- 3. *An idea-to-launch framework for doing new product development projects right*:** A best-in-class new product process or Stage-Gate system exists in top performing businesses – a system or process that drives new product projects from the idea phase through to launch and beyond. This idea-to-launch system emphasizes quality-of-execution, up-front homework, voice-of-customer input, and tough Go/Kill decision points. This is a vital success driver for virtually all of the Best Performers.

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

4. *The right climate and environment for innovation:* Senior managers in top performing businesses create a positive climate and culture for innovation and entrepreneurship, foster effective cross-functional new product project teams, and are themselves properly engaged in the product innovation decision making process.

These are the main practices that separate the Best Performers from the rest. These four themes make up the four points of performance of the Innovation Diamond, and provide the framework for the rest of this book. And they are the keys to successful product innovation.

While many investigations have identified different facets of new product management as vital to success, the major “aha” of our studies is that there is no one key to success in product innovation. Thus management must step back from looking just at a single driver or even individual new product projects, and consider the broader picture. For example, having a great idea-to-launch process is not sufficient – it’s not a stand-alone driver of positive performance.

The Innovation Diamond highlights the main drivers and practices that are common to the Best Performers in product innovation. So, emulate the winners. This Diamond proves to be a valuable model for helping senior managers focus their efforts to improve their business’s new product development productivity and performance. For example, Procter & Gamble models their new product effort at the business unit level closely on the Innovation Diamond of Exhibit A, and one of the articles in this book describes how they did it.

We have gone through the 130 plus articles and papers that we have produced during our past three decades of research and consulting in this field. In this book we present a carefully chosen selection of articles that encapsulates the key principles for winning the new product war, and for continuing to win in an increasingly tougher marketplace. So read on, and take a closer look at how these drivers of success could work in your company.

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

Contents

<i>Introduction: Successful Product Innovation</i>	1
1. <i>The Stage-Gate® System</i>	7
Robert G. Cooper	
2. <i>Succeeding at New Product Development the P&G Way: A Key Element is Using the ‘Innovation Diamond™’</i>	27
Robert G. Cooper and Michael S. Mills	
3. <i>Benchmarking Best NPD Practices: Driving New Product Projects to Market Success</i>	41
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	
4. <i>Optimizing the Stage-Gate Process: What Best Practice Companies Do</i>	67
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	
5. <i>Ideation for Product Innovation: What are the Best Methods?</i>	81
Robert G. Cooper and Scott J. Edgett	

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

Stage-Gate® is a registered trademark of Product Development Institute Inc.

6. <i>Managing Technology Development Projects</i>	99
Robert G. Cooper	
7. <i>Perspective: The Stage-Gate Idea-To-Launch Process: Update, What's New and NexGen Systems</i>	117
Robert G. Cooper	
8. <i>Effective Gating: Make Product Innovation More Productive by Using Gates with Teeth</i>	157
Robert G. Cooper	
9. <i>Ten Tips for Successfully Implementing a Stage-Gate Product Innovation Process</i>	171
Scott J. Edgett and L. Michelle Jones	
10. <i>Maximizing Productivity in Product Innovation</i>	185
Robert G. Cooper and Scott J. Edgett	
11. <i>Overcoming the Crunch in Resources for New Product Development</i>	209
Robert G. Cooper and Scott J. Edgett	
12. <i>Benchmarking Best NPD Practices: Strategy, Resource Allocation and Portfolio Management</i>	235
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	
13. <i>New Problems, New Solutions: Making Portfolio Management More Effective</i>	255
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	

Excerpt from *Successful Product Innovation: A Collection of Our Best*. Authored by Robert G. Cooper and Scott J. Edgett.

Available for purchase online at www.stage-gate.com.

Copyright © 2009 Product Development Institute Inc.

14. <i>Best Practices for Managing R&D Portfolios</i>	289
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	
15. <i>Ten Ways to Make Better Portfolio and Project Selection Decisions</i>	319
Robert G. Cooper and Scott J. Edgett	
16. <i>NPD Practices: The Dark Side of Time and Time Metrics in Product Innovation</i>	335
Robert G. Cooper and Scott J. Edgett	
17. <i>Benchmarking Best NPD Practices: Culture, Climate, Teams and Senior Management's Role</i>	345
Robert G. Cooper, Scott J. Edgett and Elko J. Kleinschmidt	
18. <i>From Experience: The Invisible Success Factors in Product Innovation</i>	373
Robert G. Cooper	