

Winning at New Products

Pathways to Profitable Product Innovation



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Product Innovation: The Business Challenge this Decade

- High positive impact¹:**
 - New products currently represent about 30% of companies' sales
 - New products on the market for 3 years or less
- Companies expect to increase rate of product introductions by 21% over the next 5 years²**
- Almost half of CEOs rate innovation as “very critical” to their future business success³**
- Companies that are doing well today invariably have an enviable stable of new products**
- Innovativeness drives companies' investment value⁴**

Sources:

1. *The PDMA Foundation's 2004 Comparative Performance Assessment Study (CPAS)*.
2. Coopers & Lybrand survey
3. *Fast, Focused, Fertile: The Innovation Evolution*, Cheskin and Fitch: Worldwide, 2003
4. Based on a study of Fortune Magazine "Most Admired Companies" survey



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Some Bad News Too! New Product Management Is In Trouble

- ❑ 44% of firms' PD projects fail to meet profit objectives¹
- ❑ Only one in seven concepts is a winner
- ❑ Performance ratings¹:
 - 32% of businesses rate their NPD speed and efficiency "very poor"
 - Only 27% rate their NPD profitability relative-to-spending as "high"
 - 28% of businesses don't even measure their NPD performance results!



If you don't know how well you're doing versus these numbers, it's time to put NPD metrics in place

Some Critical Performance Drivers That Make Businesses Profitable at NPD

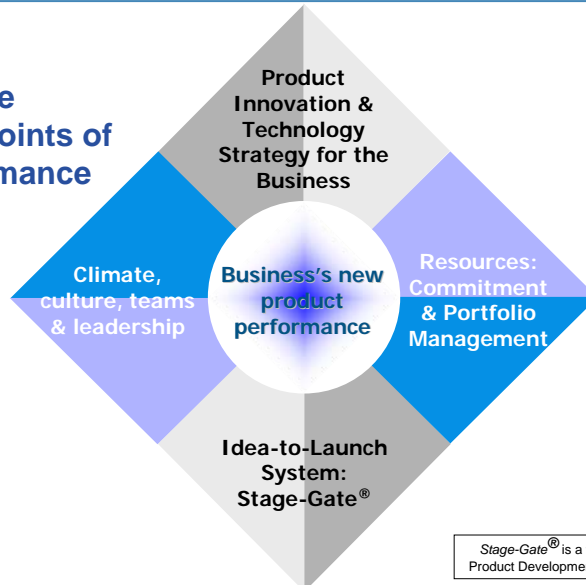


**Based on the NewProd Studies
and APQC Benchmarking
Studies of almost 2000 new
product launches in 500+ firms***

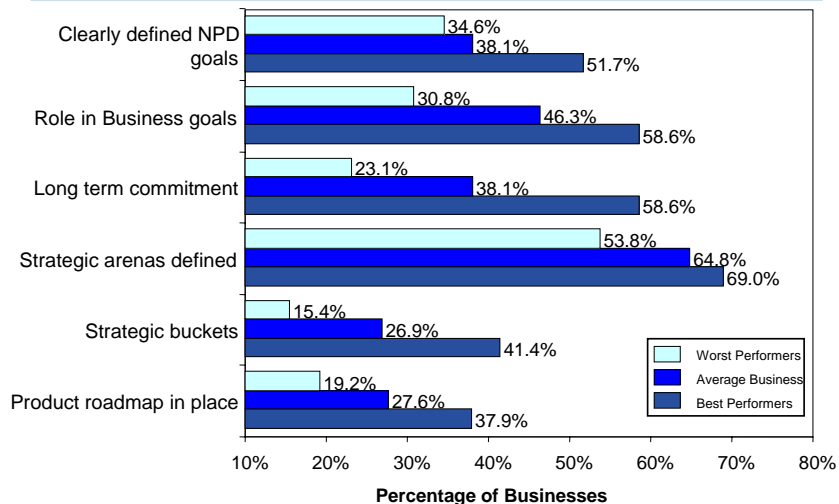
*Studies conducted by
Robert G. Cooper, Scott J. Edgett

The Innovation Diamond

And the Four Points of Performance

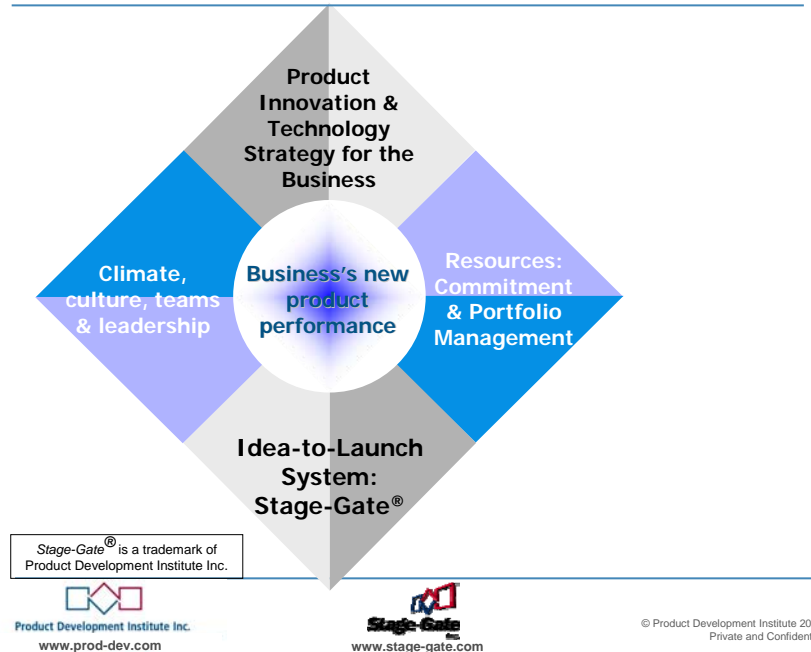


Elements of a Product Innovation Strategy



Best performers articulate a product innovation strategy

Another Critical Performance Driver



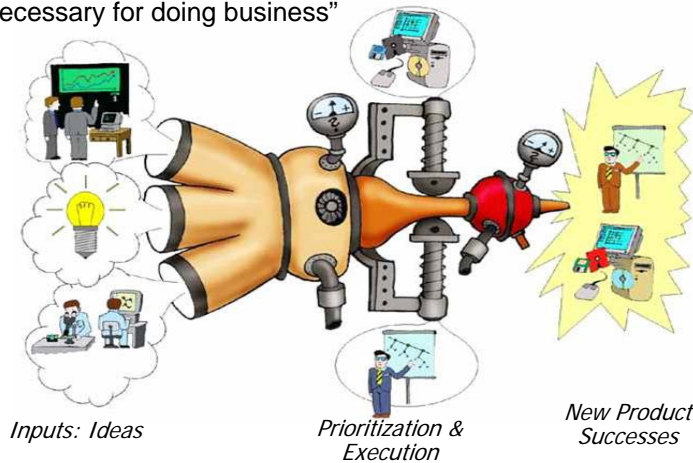
A Lean, Rapid & Productive Idea-to-Launch System

- ❑ Many leading U.S., European & Japanese firms have implemented a world-class “idea-to-launch” processes or **Stage-Gate®** systems
 - 73.7% of U.S. product developers have adopted **Stage-Gate®** (source: APQC Best practices Study)
- ❑ The results are impressive:
 - Fewer errors & less recycling
 - Shorter times to market (by about 30%)
 - Better cross-functional communication & cooperation
 - Earlier detection of failures & higher success rates
 - More projects on time & on budget
 - Better launch & higher customer satisfaction

A World Class Idea-to-to-Launch NP System

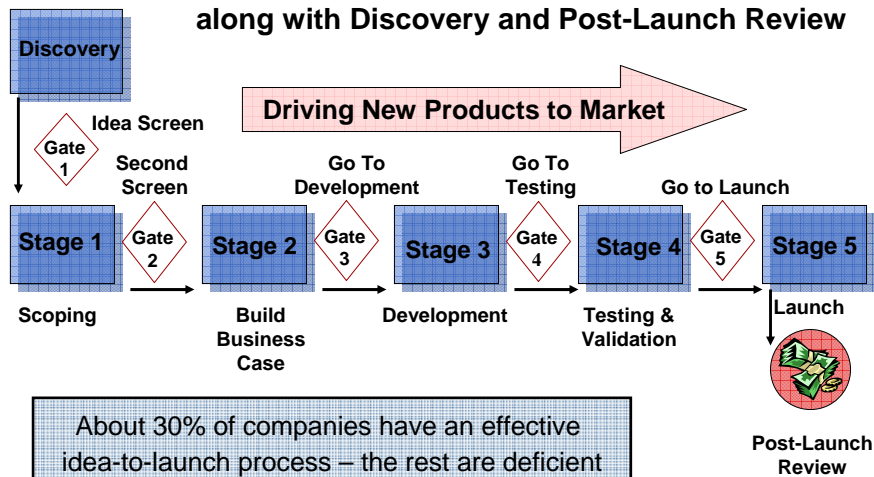
□ Every best practice business has a NP Process¹

- Just a “given”
- “necessary for doing business”



An Overview of the Stage-Gate[®] System

Stage-Gate[®]: A five stage, five-gate roadmap along with Discovery and Post-Launch Review



#1: Customer Focused

- ❑ Developing and delivering new products that:
 - Are differentiated
 - Solve major customer problems
 - And offer a compelling *value proposition* to the customer or useris the number one key to success and profitability
- ❑ Conceiving such unique, superior products is no easy task
- ❑ Begins with a thorough understanding of the customers' & users' unmet and unarticulated needs thru in-the-field voice of customer work
- ❑ The customer or user must be an integral part of the entire development process



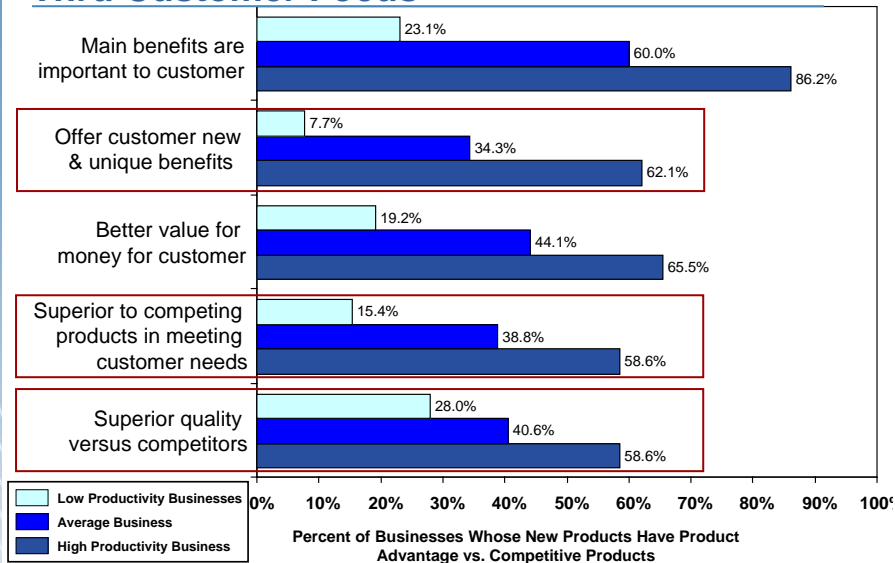
Build a Customer Focus into the Process



- ❑ **1st pay-off: A winning and profitable product**
 - Unique superior products
 - Differentiated, compelling value proposition
- ❑ **2nd pay-off: Reduces time, doesn't add time!**
 - Sharpens product definition
 - Gets the product specs right
 - Confirms product design early in the process
 - Minimizes last minute changes and panics

A strong market orientation is critical to success
and is missing in the majority of new product projects

Competitive Product Advantage Gained Thru Customer Focus

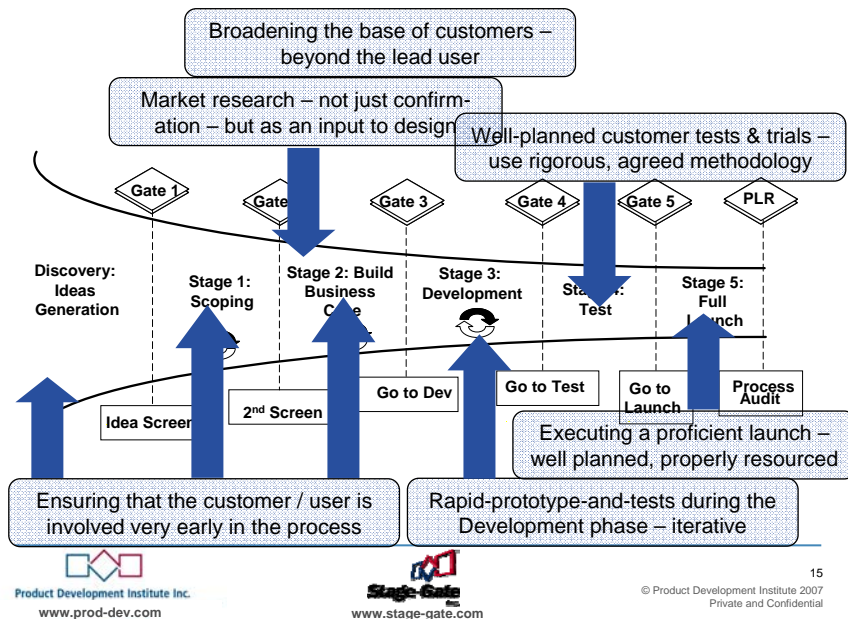


Customer Focused Means

- ❑ **Must build in a customer-focused strategy – identifying and exploiting shifting competitive advantage**
- ❑ **Key Principles here:**
 1. Necessary to understand customer value
 - Focus on their unspoken, unarticulated and often hidden needs
 - Must go beyond wants, requests and specifications
 2. Must be face to face – touching real customers
 - The entire project team
 - At multiple customer sites
 3. Must have constant customer interaction, testing & validation of the product as its evolves from concept thru to final product

Get customers and users involved throughout the entire process

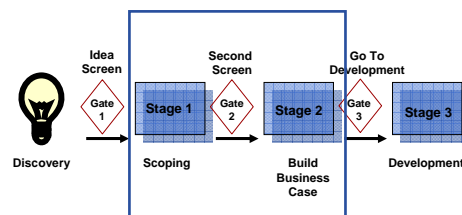
A Strong Customer Focus Means Vital Actions



#2. Front-End Loaded

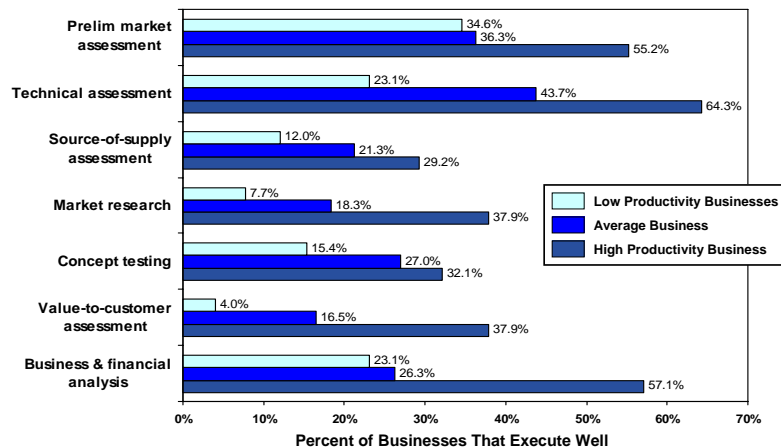
□ Two Key Issues here:

1. **Doing the right up-front homework**
 - What homework?
 - And how much homework is enough?
2. **Getting fact-based product definition**
 - Working with fluid information
 - Changing customer requirements
 - Shifting market conditions
 - Which lead to fluid and flexible product definitions



Front-End Homework is Essential

- ❑ It's false economy to cut corners here!
- ❑ Key to both timeliness and success



Does more front-end homework mean longer times to market?

NO!

1. More time and money spent on the front-end greatly improves the odds of success – there is clear evidence for this!
2. More homework results in better & sharper product and project definition – this speeds up the Development phase (less recycling and wasted time)
3. Front-end homework done anticipates product problems and design changes – these product design changes are made early in the game (rather than as the product is going to market)



“Do it right the first time” – DIRTfooT

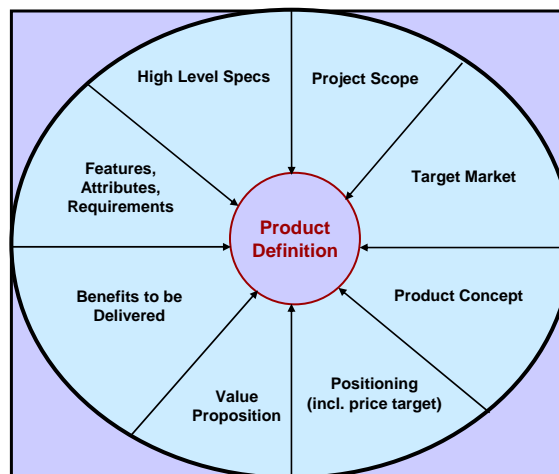
And Build In a Product Definition Step Before Development Begins

- ❑ An all-party agreement between team members and senior management
- ❑ Includes:
 - Project scope
 - Target market definition
 - Product concept – what the product will be & do
 - Positioning strategy, benefits to be delivered and compelling value proposition
 - Product's requirements and high level specs
- ❑ Establishes the goal-posts – what's expected – so that Development can speed towards its goal



Best performing businesses emphasize up-front homework leading to sharp, fact-based Product Definition

The Integrated Product Definition



And what the product will not be!

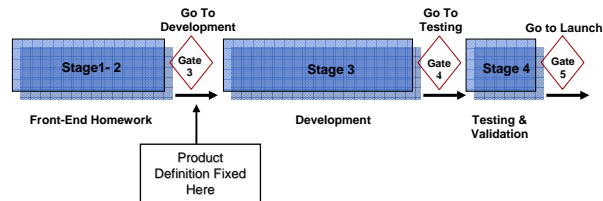
#3: Spiral Development

❑ Spiral Development

- Handles the dynamic information process with fluid, changing information
- Gets the product right

❑ By Contrast: the Rigid, Linear Process

- Front-end work or homework is done
- The product specs are determined, the product definition is fixed
- Development proceeds – the product is developed
- Then tested... but...



But Things Change!

❑ Fluid or Unreliable Information

- The product definition was not quite right in the first place
- Or market and customer requirements changed
- Or a new competitive product was introduced
- Or new technical possibilities become available

❑ A Rigid, Linear Process does not work

- Not adaptive
- Does not responding to changing and fluid information

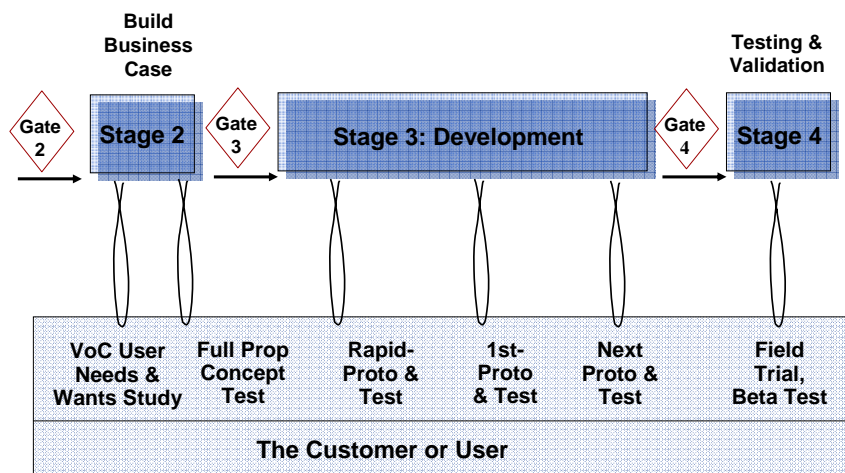
❑ What to do?

Smart Teams Practice Spiral Development

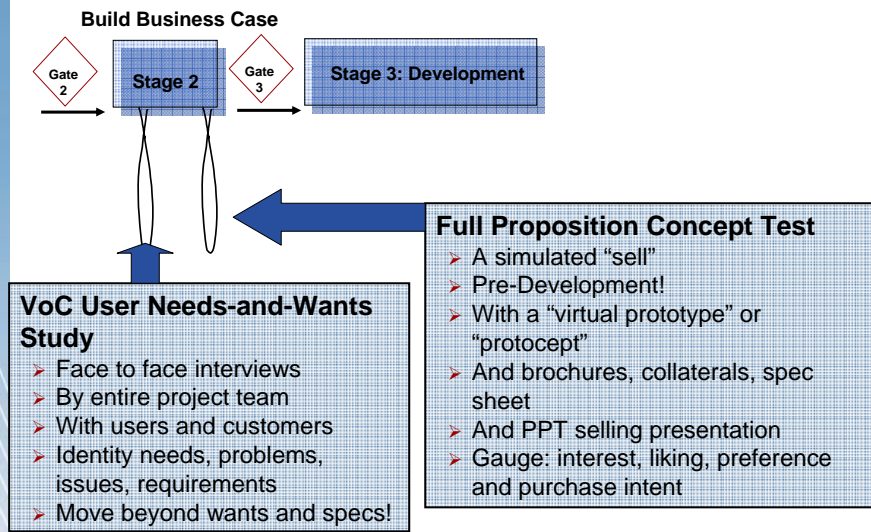
- ❑ They use a series of iterative steps or “loops”
 - Build-test-feedback-and-revise**
- ❑ They define what information is fixed and reliable
- ❑ And define what design elements of the product are fixed versus variable (fluid)
- ❑ They develop a first very early version of the product
 - A virtual prototype
 - They test it with the customer, seeking fast feedback
 - Which they then use to produce the next and more complete version, a crude model or rapid prototype... and so on
- ❑ Use tools:
 - Virtual prototypes
 - Rapid prototypes
 - Laptop & video projector

Get something in front of people!
 People don't know what they're looking for until they see it.

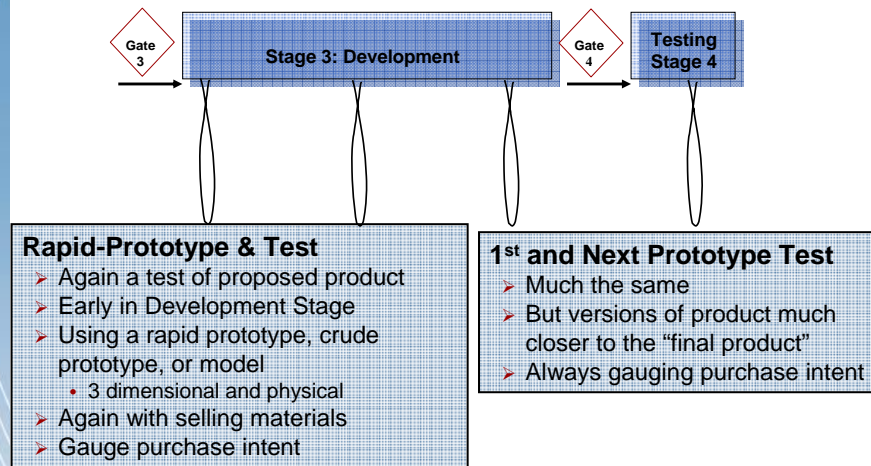
Spiral Development: A Series of “Build-Test-Feedback-Revise” Iterations



Sample Spirals in Stage 2 - Business Case



Sample Spirals in Stage 3 - Development



A series of rapid build-test-feedback-and-revise spirals

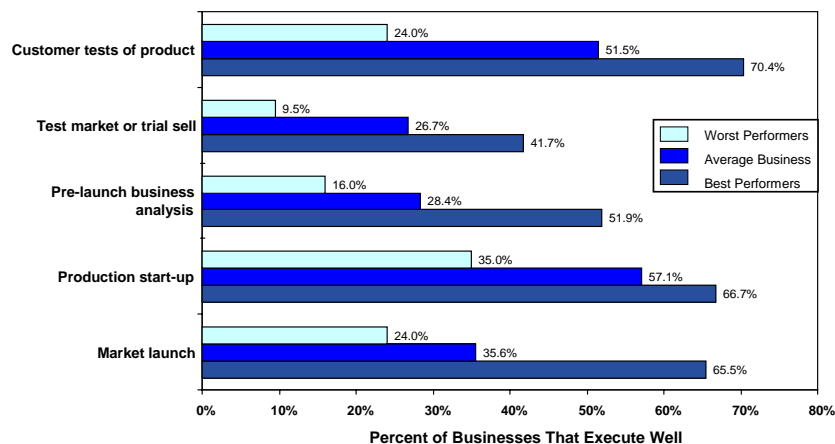
Spiral Development: An Effective Way Handle Unstable and Fluid Information

- ❑ These loops or spirals enable teams to quickly confirm elements of the products' design
 - Separate facts from speculation
 - Establish interest, liking & purchase interest
- ❑ And respond quickly to changing customer requirements
- ❑ Moving rapidly to a finalized product
- ❑ These "loops" or "spirals" are built in from Scoping right thru the Development Stage & into Testing

May take a bit more work in the short term...
But saves a lot of rework, recycle and going 'back to beginning'
A key way to improve NPD Productivity

#4: An Effective Launch Plan

- ❑ Not only must the new product meet customer needs & wants
- ❑ It must be marketed – sold! – effectively
- ❑ A lack of an effective launch kills many new products



Components of a Launch Plan



The Design of the Marketing Plan Is Done as Part of the New Product Process

Not at the end!

- Rule: The marketing plan begins at the first few steps of the new product process**
- Start early**
- Get the entire Project Team working on the Marketing Plan**
- Must overlay the marketing planning process on top of the new product process**

A solid launch plan, backed by the right resources, and properly executed, is fundamental to success

Overlaying the Marketing Planning on the NPP

NP Stage-Gate Process

Idea or Discovery

- Idea generation
- Initial Screening (Gate 1)

Stage 1. Scoping

- Preliminary market, technical & financial assessment

Stage 2. Business Case

- VoC – user needs & wants studies
- Competitive & market analyses
- Concept tests with users
- Detailed technical assessment
- Detailed financial analysis

Corresponding Marketing Planning Tasks

□ First cut at...

- marketing objectives
- size-up (analysis) of the market
- target market definition
- defining product concept & strategy
- assessing market & sales potential

□ Define precisely...

- target market & positioning strategy
- product requirements
- product benefits & features
- target price
- expected sales & revenues

□ First cut at...

- preliminary market launch plan

Overlaying the Process (continued)

Stage 3. Development

- Product development
- Iterations with customers
- Develop test, marketing & production plans

Stage 4. Test & Validation

- Full customer tests
- Test market
- Trial production

Stage 5. Full Production & Market Launch

- Implement production and marketing plans

□ Initial customer feedback:

- rapid prototype-and-test

□ Develop detailed market launch plan:

- advertising & promotion
- pricing, discounts, margins
- salesforce & distribution
- customer service & support

□ Test the Marketing Plan:

- product tests with customers (to validate product & confirm purchase intent)
- test market or trial sell
- revise product & support elements of marketing mix
- finalize product & marketing plan

□ Implement Marketing Plan

□ Measure, Control, & Adjust Plan

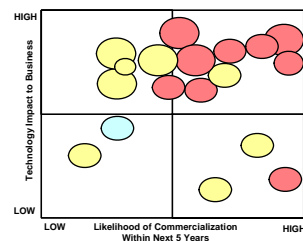
Another Critical Performance Driver



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Deployment & Strategic Portfolio Management: Fundamental to Successful NPD

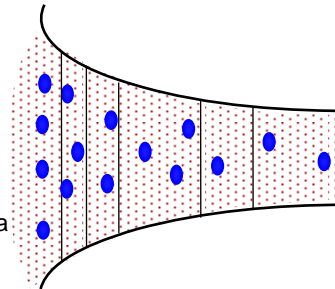
- ❑ How should you invest your R&D or Development funds and people?
- ❑ What is your investment portfolio?
- ❑ Portfolio Management:
 - Is about resource allocation
 - Which Development projects should the business resource from among many opportunities (Go/Kill)?
 - The relative prioritization of these (e.g., accelerated development; Go vs. Hold for now)
- ❑ PM is how you put into practice your Business Strategy



Strategy becomes real when you start spending money!

Focus – A Funneling Approach For Effective Portfolio Management

- ❑ Every development project is an investment
- ❑ Must be carefully scrutinized & focused thru an *effective portfolio management system*
- ❑ Focus is achieved with a funneling approach:
 - Start with many solid new product concepts
 - Successively remove the weak ones via a series of gates & portfolio reviews
- ❑ The result is fewer projects, but higher value projects



Must learn to “drown some puppies”

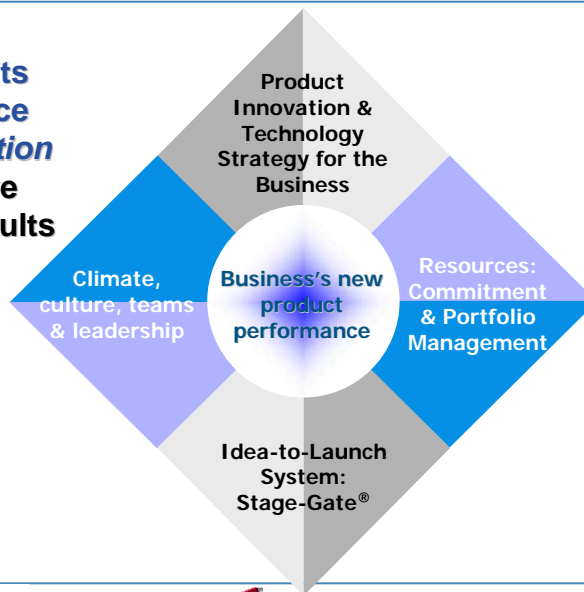
Focus Resources on the Hi-Value Projects

1. **Many new product projects should be killed!**
 - Simply low value-to-the-company projects
2. **But resources are too scarce to waste on the wrong projects – a need for better focus**
3. **Project evaluations in most firms are weak or non-existent**
 - No process or procedure for killing projects – no “Kill mechanism”
 - No criteria for Go / Kill
 - Wrong people at the gate
 - Poor, missing or inconsistent data on projects
4. **Must develop more rigor in project selection – move to Portfolio Management**
 - Use scorecards to rate & rank projects
 - Use the Productivity Index too!

Portfolio Management helps effectively allocate resources

The Diamond works... so work the Diamond!

The four points of performance in the *Innovation Diamond* drive your NPD results



References – Books:

1. *Product Leadership: Pathways to Profitable Innovation* (Perseus Books, Reading, Mass) by RG Cooper... hardcover 2005. Aimed at the senior executive. Provides an in-depth look at developing a product innovation and technology strategy, implementing portfolio management, making the idea-to-launch process work, and creating the right climate & culture for innovation.
2. *Lean, Rapid & Profitable New Product Development*, Cooper & Edgett. Outlines the seven principles to maximize your NPD productivity, 2005. www.stage-gate.com
3. **New!** *Creating Breakthrough New Product Ideas: Feeding the Innovation Funnel*, 2007, www.stage-gate.com
4. *An Investigation into Best Practices in Product Innovation: What Distinguishes the Top Performers, March 2003*. Reports the results of the latest and definitive benchmarking study, done thru APQC, Houston.
5. *Winning at New Products: Accelerating the Process from Idea to Launch*, 3rd edition, 2001, by RG Cooper (Perseus Books, Reading, Mass), paperback, 425 pages. The classic best seller – 3rd edition. Provides an overview of the critical success factors in product development, and outlines the Stage-Gate® process
6. *Portfolio Management for New Products*, 2nd edition, 2002 (new!) by Cooper, Edgett & Kleinschmidt, (Perseus Books, Reading, Mass) hardcover. Provides a look at the best portfolio methods, results achieved, and their use in industry.
7. *Product Development for the Service Sector*, by Cooper & Edgett (Perseus Books, Reading, Mass) 1999. Success factors and Stage-Gate® for service industries

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Articles (in chronological order):

1. R.G. Cooper, "Product Innovation and Technology Strategy" in "Succeeding in Technological Innovation" series: *Research-Technology Management*, 43, 1, Jan-Feb. 2000, pp 28-44.
2. R.G. Cooper, "Doing it right -winning with new products," *Ivey Business Journal*, July-August 2000, 4, pp 54-60.
3. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "New problems, new solutions: making portfolio management more effective", *Research-Technology Management*, 2000, 43,2, pp 18-33.
4. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "Optimizing the Stage-Gate® Process: What Best Practice Companies Are Doing – Part I", *Research-Technology Management* 45, 5, Sept-Oct 2002, pp 21-27.
5. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "Optimizing the Stage-Gate® Process: What Best Practice Companies Are Doing – Part II", *Research-Technology Management* 45, 6, Nov-Dec 2002.
6. R.G. Cooper, "Stage-Gate new product development processes: a game plan from idea to launch", in: *The Portable MBA in Project Management*, ed. By E. Verzuh, Hoboken, N.J.: John Wiley & Sons, 2003, pp 309-346
7. R.G. Cooper and S.J. Edgett, "Overcoming the crunch in resources for new product development," *Research-Technology Management*, 46, 3, May-June 2003, pp 48-58.
8. R.G. Cooper, "Maximizing the value of your new product portfolio: Methods, metrics and scorecards, *Current Issues in Technology Management*, published by Stevens Alliance for Technology Management, Vol. 7, Issue 1, Winter 2003, p 1.
9. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "Benchmarking best NPD practices – I: Culture, climate, teams and senior management roles", *Research-Technology Management*, Vol. 47, No. 1, Nov/Dec 2003, pp 31-43.
10. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "Benchmarking best NPD practices – II: Strategy, resource allocation and portfolio management", *Research-Technology Management*, vol. 47, no. 3, May/June 2004, pp 50-59.
11. R.G. Cooper, S.J. Edgett & E.J. Kleinschmidt, "Benchmarking best NPD practices – III: The NPD Process & Decisive Idea-to-Launch Practices", *Research-Technology Management*, vol. 47, no. 6, Nov-Dec 2004.
12. R.G. Cooper, Chapter 1 "New Products: What Separates the Winners from the Losers" *The PDMA Handbook of New Product Development, 2nd Edition* New York, NY John Wiley & Sons (2004).
13. R.G. Cooper, *Winning at New Products: Pathways to Profitable Innovation*, Microsoft whitepaper, www.microsoft.com, 2005.
14. R.G. Cooper, "Your NPD portfolio may be harmful to your business's health", *PDMA Visions*, XXIX, 2, April 2005, 22-26
15. R.G. Cooper, & M. Mills, "Succeeding at new products the P&G way: A key element is using the "Innovation Diamond", *PDMA Visions*, XXIX, 4, October 2005, 9-13.
16. R.G. Cooper & S.J. Edgett, "Ten ways to make better portfolio and project selection decisions", *PDMA Visions Magazine*, XXX, 3, June 2006, p 11-15.
17. R.G. Cooper, "Formula for success", *Marketing Management Magazine* (American Marketing Association), March-April 2006, p 21-24.
18. R.G. Cooper & S.J. Edgett, "Maximizing productivity in product innovation," forthcoming in *Research Technology Management*, Fall, 2007.

Also, see selected articles on line (no charge) at www.stage-gate.com



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