

**Welcome to  
New Product Development!**



# NPD Agenda

## Strategy, Structure & Process

Foundation  
elements

Overview of  
new product  
processes

## Building a business case for your product

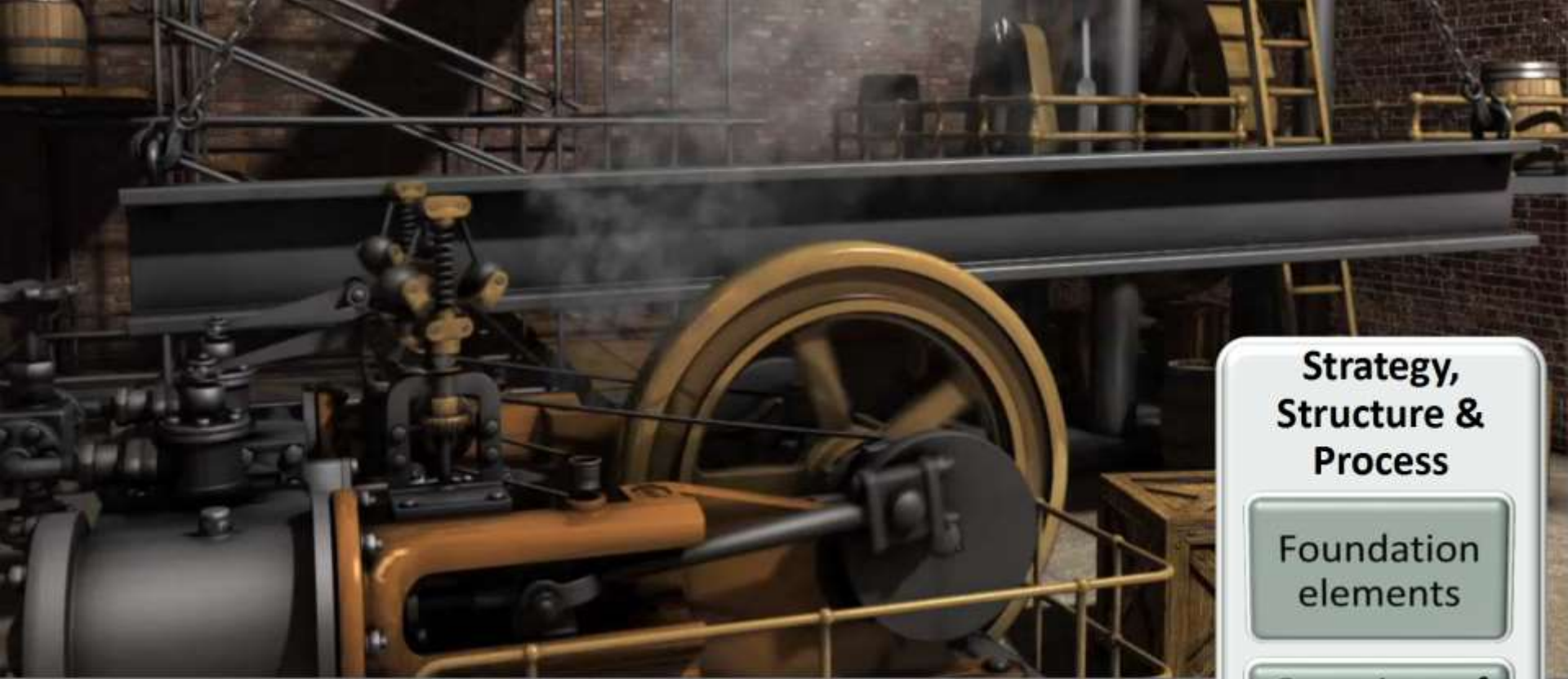
Ideation &  
research

Building the  
business case  
& design

## Development and launch activities

Validate &  
develop

Launch &  
post-launch  
efforts



## Strategy, Structure & Process

Foundation  
elements

Overview of  
new product  
processes

# Strategy, structure & process



## After the foundation session ...

You should be better able to:

- Distinguish between foundation and project-specific elements of NPD
- Utilize different approaches to innovation
- Spot potential market friction / acceptance factors
- Link product portfolios and strategies to the NPD process



## Increasing demands on development processes

1980s

Quality/ technology

1990s

Above PLUS

Low Cost

Early 2000s

Above PLUS

Increased speed

2010 +

Above PLUS

Product glut & hypercompetition

Open innovation & coopetition

Globalization

Economic impacts



## Foundation vs. project elements

### Foundation

Focus on systematic series of actions

- Structures, roles, incentives & norms
- Process metrics

Business and product strategies

- Vision, technologies & portfolio

Overall corporate climate & culture

### Project

Focus on specific product projects

- Plans, schedules & timelines
- Project metrics

Specific product concepts, definitions, development

Project team and contributor inputs

# The 3C Framework for product managers / owners

## Concept

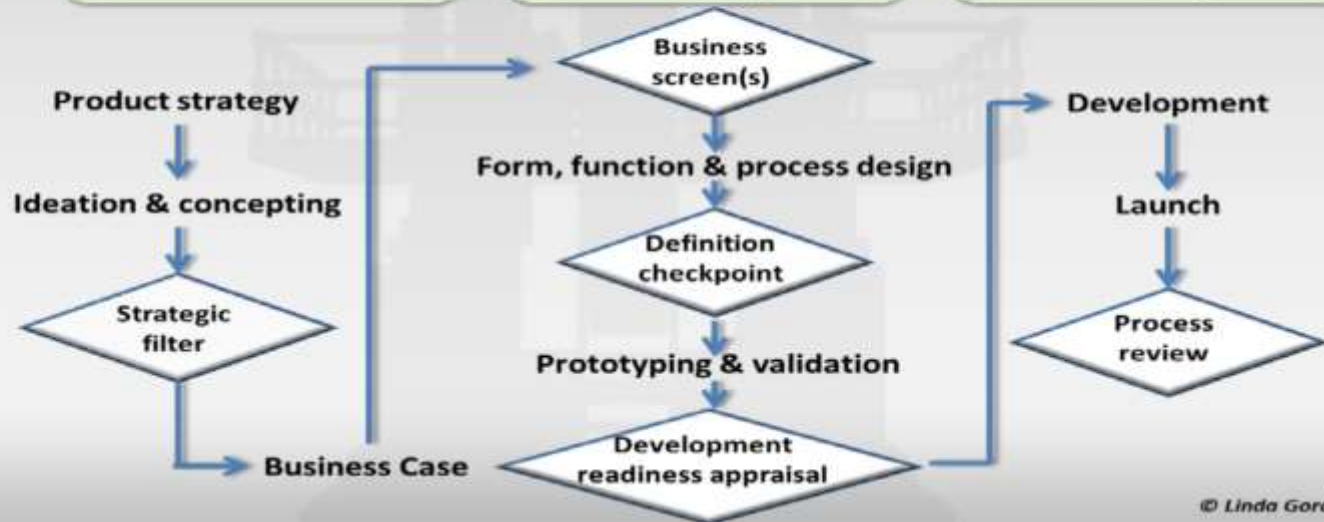
- Roadmaps
- Strategy
- Ideation
- Business case

## Create

- Business case
- Framing
- Oversight
- Gate reviews
- Beta programs
- Provisional plans

## Commercialize

- Readiness
- Belief builders
- Training
- Plan execution
- Tracking
- Auditing



# Time commitment changes

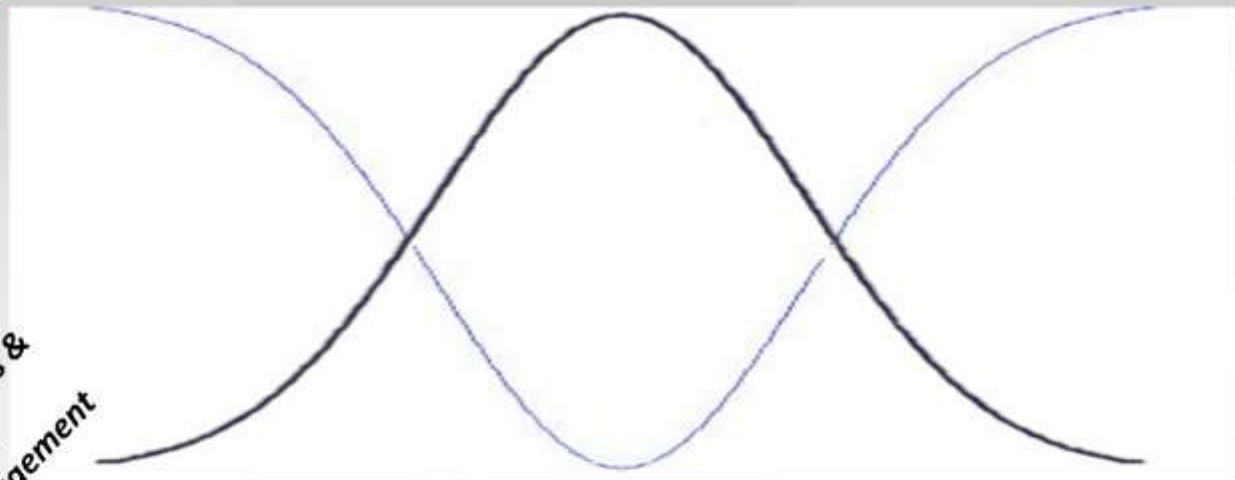
*Strategy & marketing*

Concept

Create

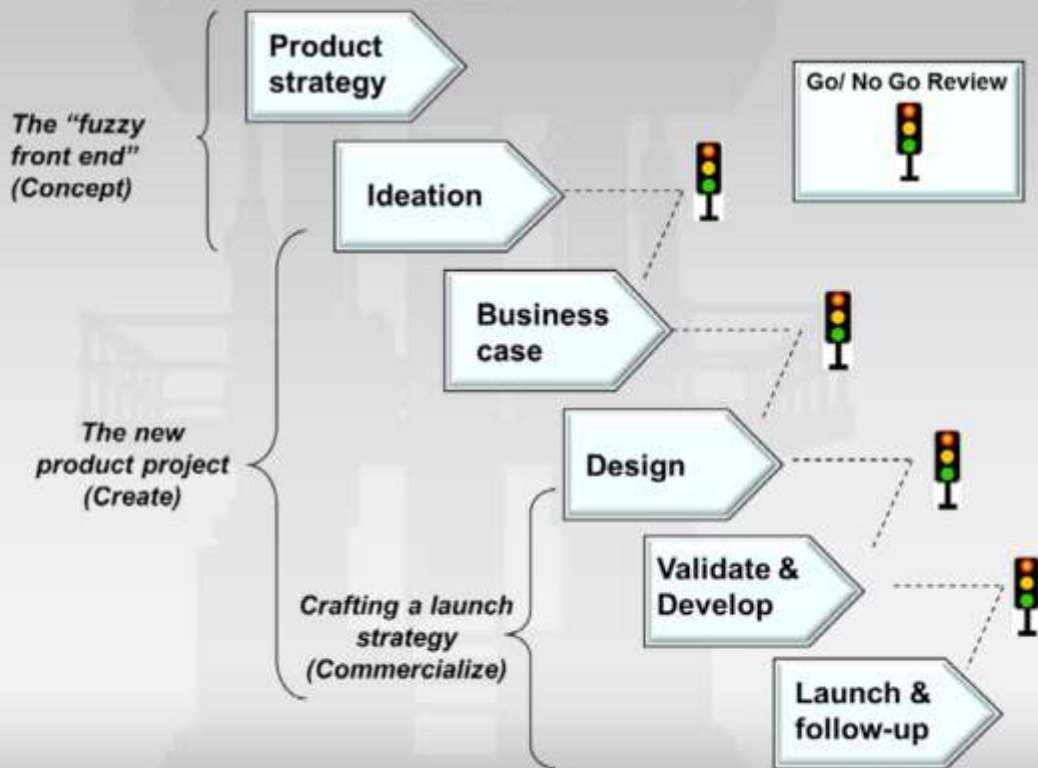
Commercialize

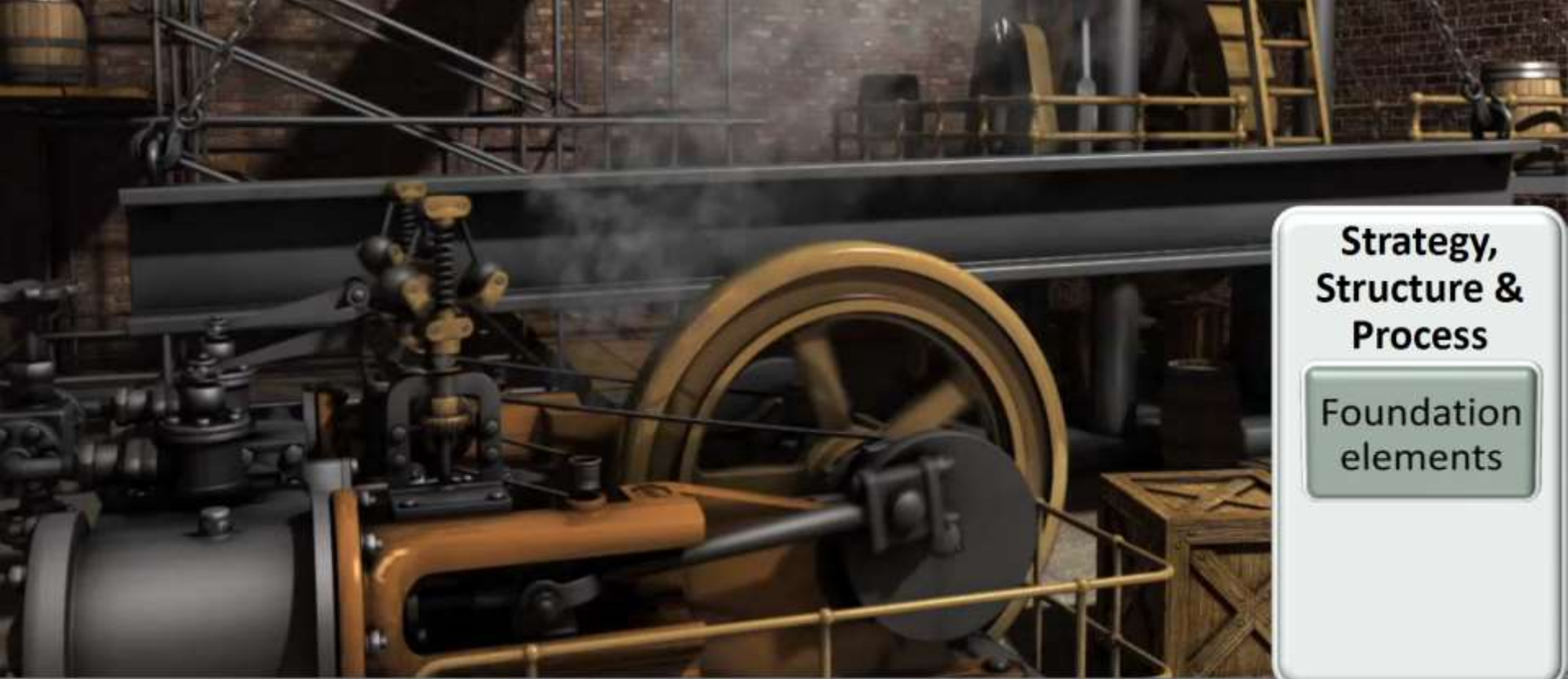
*Operations & project management*





# Conventional Project View of NPD





**Strategy,  
Structure &  
Process**

Foundation  
elements

**NP Foundation Elements  
Part 1**

Business planning, product strategy &  
portfolio management



**What is the fuzzy front end?"**

**The activities that typically precede what is traditionally considered the "official start" of a new product project.**

## Fuzzy front end



## Example “fuzzy-front-end” time losses



Source: Preston Smith & Donald Reinertsen, *Developing Products in Half the Time* (Van Nostrand Reinhold, 1991) p.45.



**Time is an  
irreplaceable  
resource.**



## Open innovation concepts

Co-development	Working with outside partners in development
Collaborative innovation	Networks, alliances, consortia
Joint venture	Formal legal arrangement
Open innovation	Leveraging external sources of technology & innovation
Open-source models	Informally structured collaborations


Source: M. Docherty, "Primer on Open Innovation, PDMA Visions, April 2006, p. 13.



## **Create opportunity road maps**

Roadmapping is a graphical multi-step process to forecast future market and/or technology changes, and then plan the products to address these changes. (Product Development & Management Association glossary.)

Knowledge of S-curves may be part of the roadmapping and/or product life-cycle management.

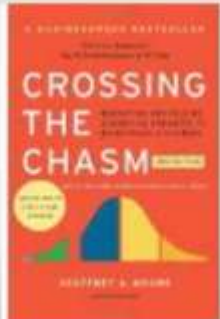






# Technology market curve

Tipping point



Geoffrey A. Moore



## Link strategies to results

What is your product portfolio strategy?

How does your product innovation strategy link with your ...

- Business strategy?
- Brand position and equity?

Create a “balanced scorecard” type of screening model to evaluate and rank new product projects that are part of the portfolio.



**Start with  
the end in  
mind.**



**Explore a broad domain of  
market acceptance forces**

**Sources of market  
acceptance or  
friction:**

Potential buyers

Competitors

Trade intermediaries

Suppliers

Complementors

Other stakeholders

# Define product portfolios





## **Use portfolios to reduce risk**

A portfolio is a set of products (i.e., existing assets and planned investments) that provide an appropriate level of diversification to minimize random risk.

Portfolio management refers to the alignment of the portfolio with business strategies, culture, brand architecture, and external factors, as well as the prioritization of products and projects.



## Why is a “portfolio” necessary?

Financial planners stress the importance of a diversified set of investments to reduce risk. Since the duration, intensity and frequency of market changes is hard to predict, a mix of funds helps manage risk. In addition, planners recommend rebalancing your portfolio on a regular basis as priorities change. These tips apply to product portfolios as well.

# Risk-Reward Diagram



Source: Robert Cooper & S.J. Edgett, Portfolio Management for New Products, 2e, Basic Books, 2001





## **Add pipeline management**

Pipeline management refers to a balanced spacing (and trade-offs) of new product projects across the process.

- Do you have an ongoing pipeline of new products? Does it “fit” your culture?
- Are there different projects at different stages of development – with different time horizons?



## **Manage product life cycles**

Plan for changes in products and marketing mixes over time to improve long-term profitability.

Knowledge of the adoption curve may be part of the analysis.

What has been the life of similar products?

- What do market force changes imply?



## Rationalize products periodically

Products to consider for elimination (rationalization) are often at the end of the product life cycle, but can be at other stages as well.

Develop criteria for ongoing evaluation

- Consider product *line* impacts
- Sales volume, revenue, profitability
- Part commonality
- Functionality
- Customer need/competitive advantage





## **Define rationalization strategies**

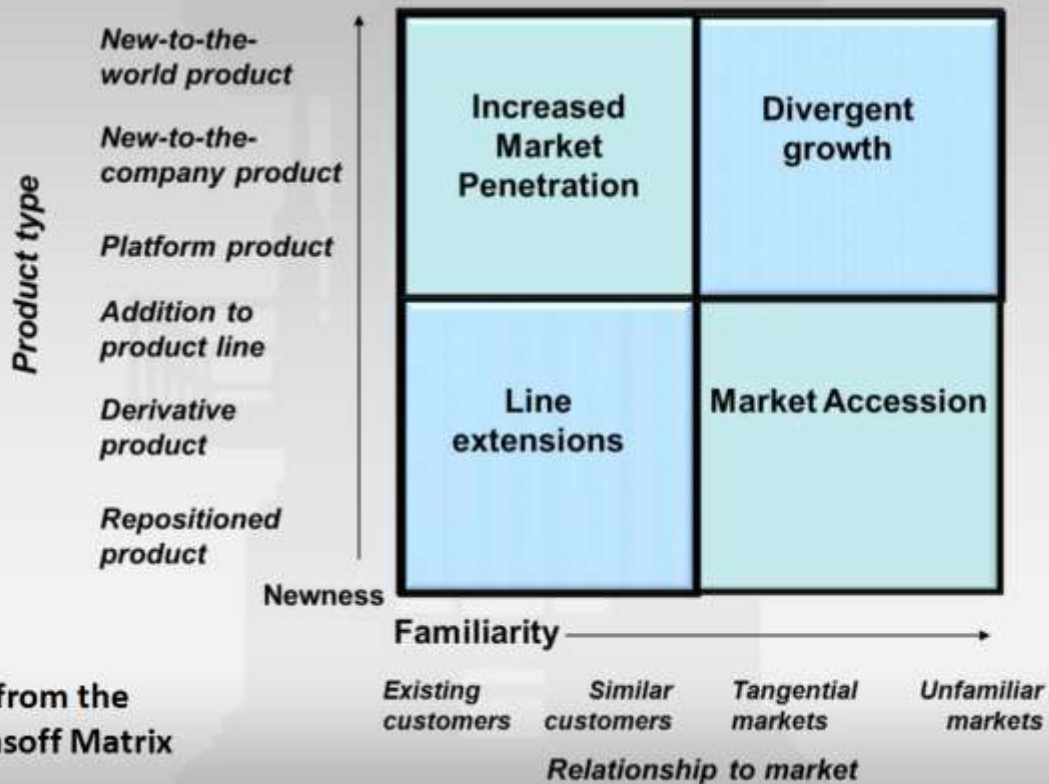
Combine functionalities into one product

Eliminate product

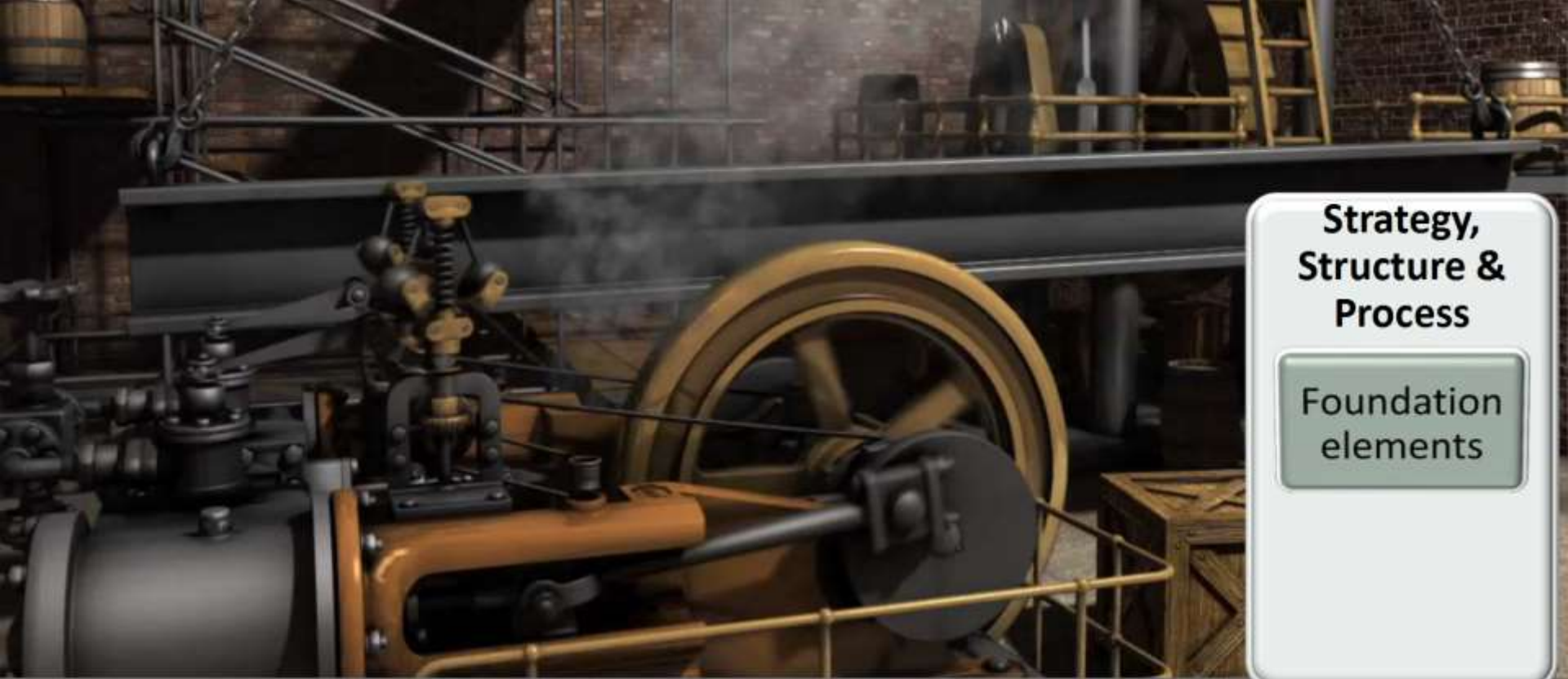
- Raise price to reduce customer demand
- Lower price to reduce inventory

Sell rights to another company

# A NP portfolio planning matrix



Adapted from the classic Ansoff Matrix



**Strategy,  
Structure &  
Process**

Foundation  
elements

# **NP Foundation Elements**

## **Part 2**

Organizational culture and structure



## **Is there an innovation culture?**

What is your firm's "posture" toward innovation, risk-taking, and product development?

How well is product development linked to business strategy? Is your firm proactive or reactive?

How active are employees in the process?

What is being or can be done to influence innovation and creativity?



## Collaboration & power

*“The more power you have, the more important it is to exercise power collaboratively. You may get your way acting unilaterally – but almost always at a cost, and usually you have a smaller stock of power the next time you need it. Power and political capital grow when you act through others ... Never compete where you don’t have to.”*

Harvard Business Review, October 2004, p. 10.

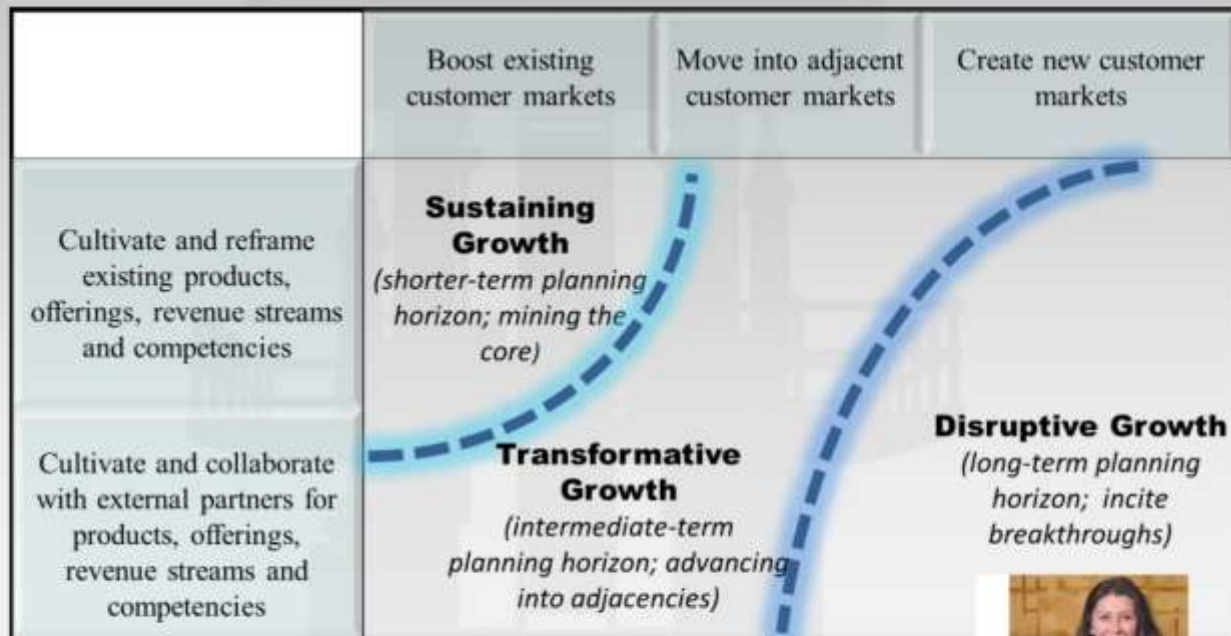




## Google's 9 Principles of Innovation

1. Innovation comes from everywhere
2. Focus on the user
3. Think 10x, not 10%
4. Bet on technical insights
5. Ship and iterate
6. 20% time
7. Default to open
8. Fail well
9. Have a mission that matters

# Gorchels' product/business model portfolio

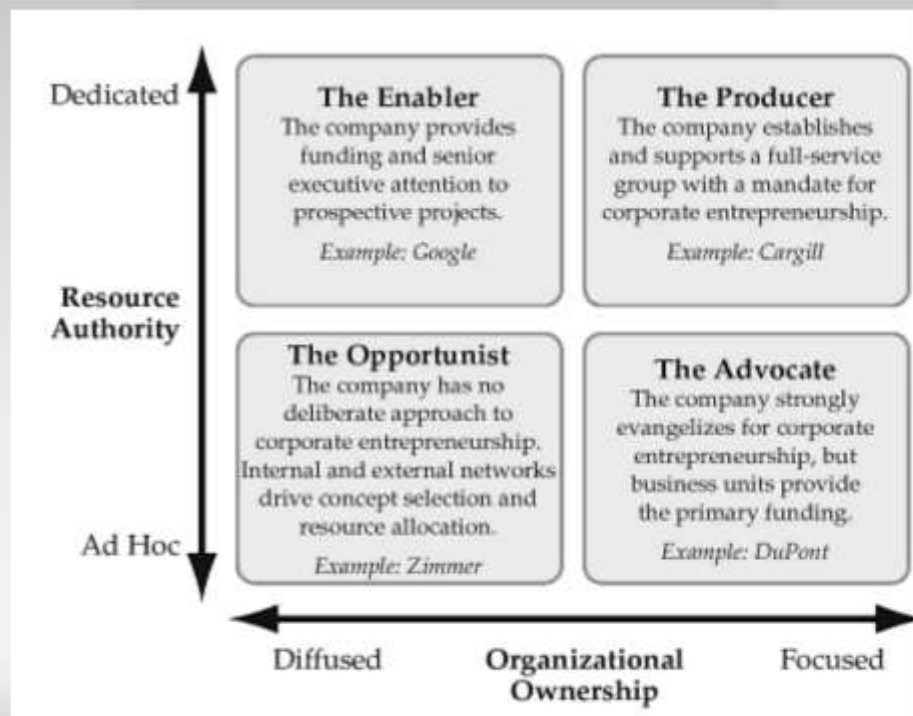


# The Innovation Paradox

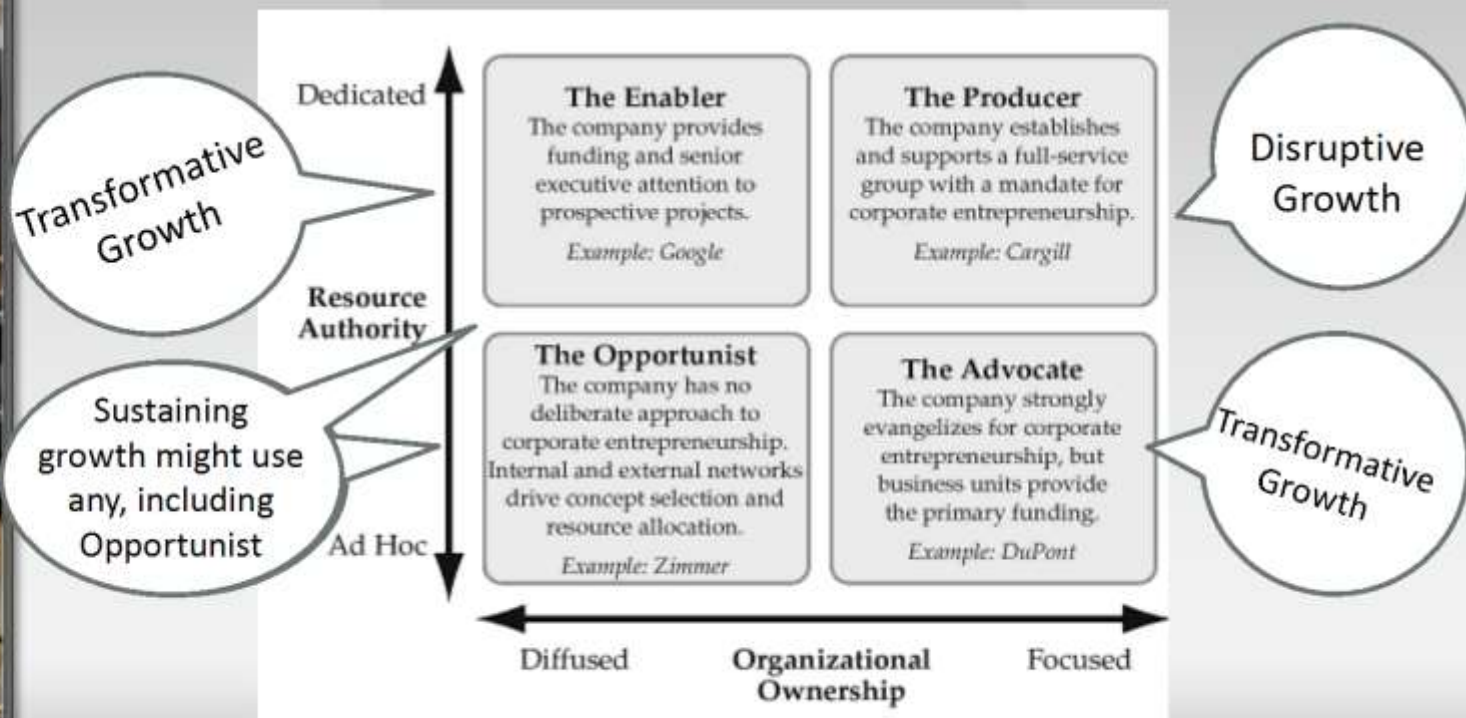
Robert C. Wolcott



# Wolcott-Lippitz Innovation Structures



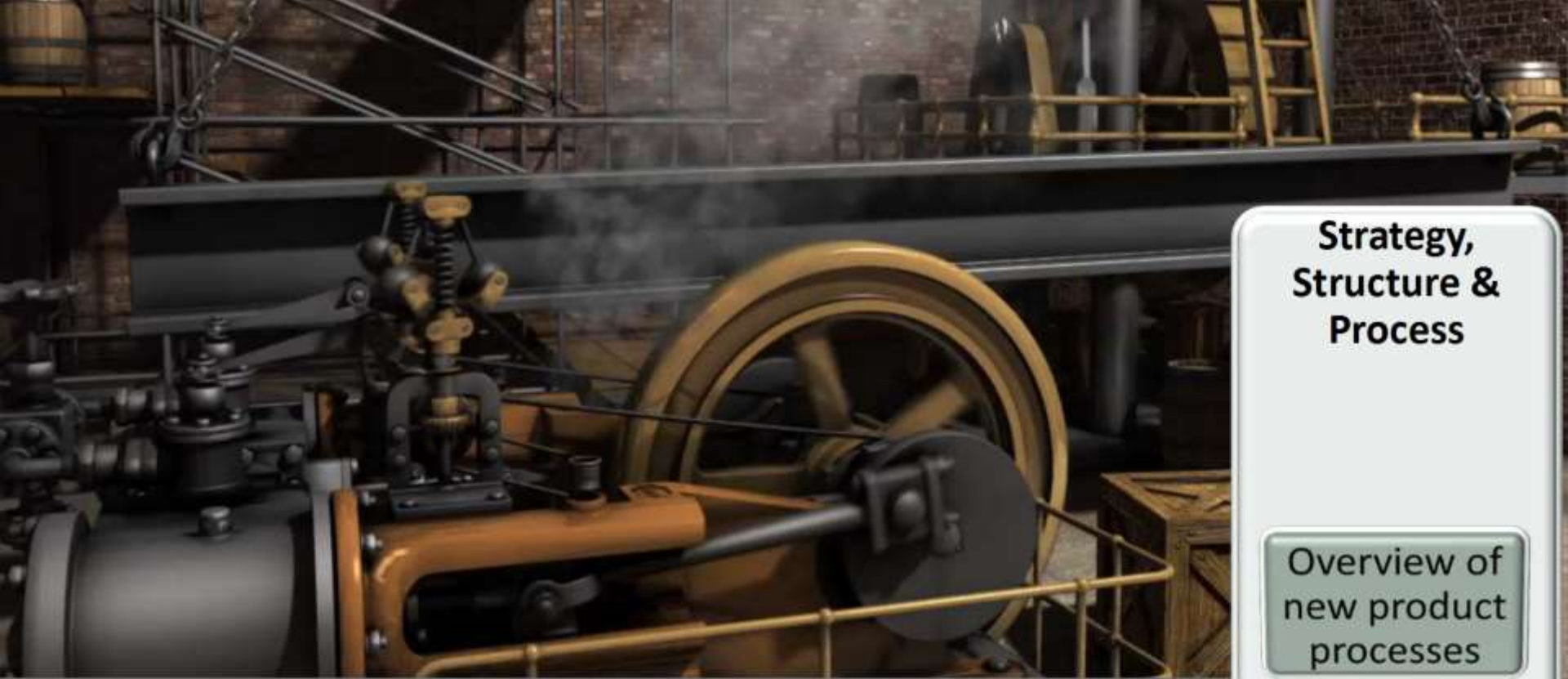
# Strategy/structure alignment





## Dan Pink – Innovation Motivation





**Strategy,  
Structure &  
Process**

Overview of  
new product  
processes

## **Introduction to the NPD process**

Project-specific elements of NPD



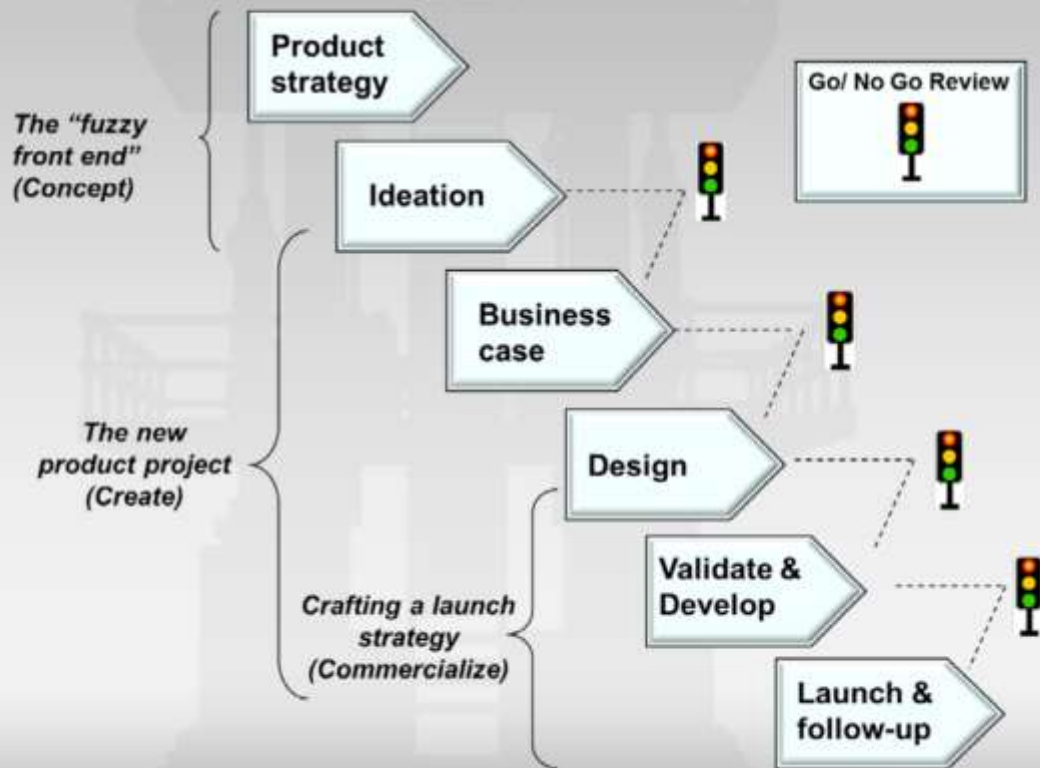
## After this process session ...

You should be better able to

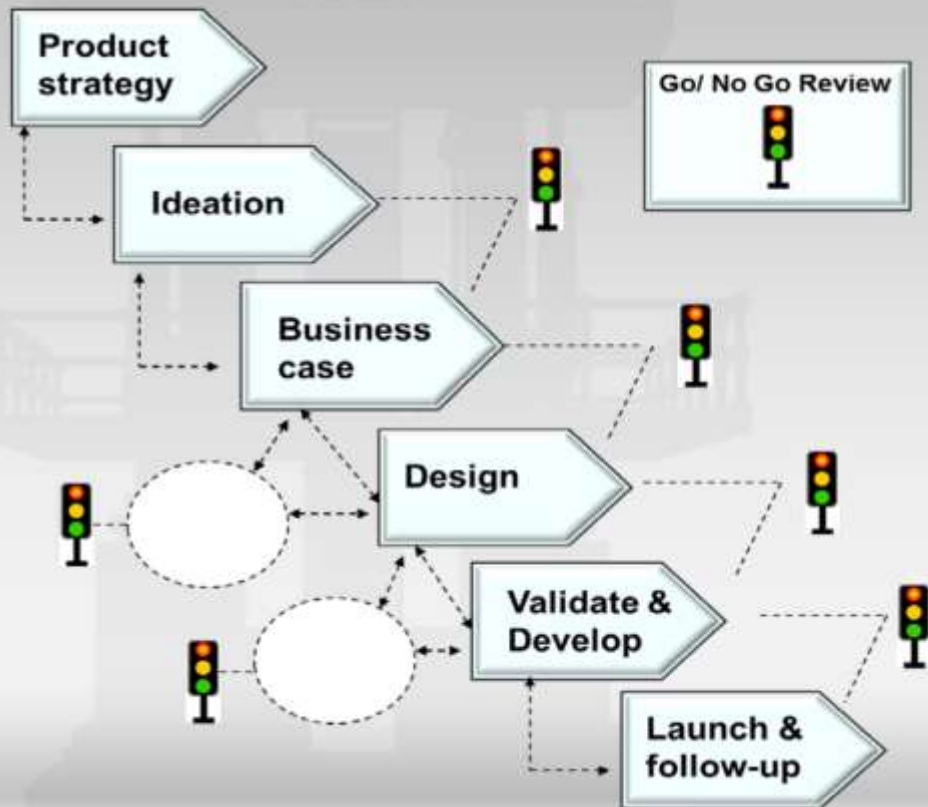
- Describe typical stage-gate processes & deliverables
- Differentiate among different types of reviews
- Identify different potential (preliminary) metrics
- Link product strategy (as a predecessor) to the projects of new product development
- Understand roadmapping as a strategy tool rather than a project tool



# Conventional Project View of NPD



*In reality it may not be so linear*



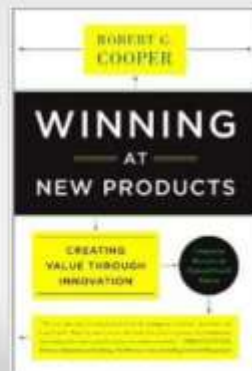


## And it should be scalable

Line extensions and low-risk projects may be best suited to an abbreviated version by combining steps and/or using some self-managed reviews

Breakthrough and platform projects may require sub-steps throughout the process


IN EITHER CASE, maintain clear metrics and accountability




Robert Cooper



## Customize for your needs

What steps (  ) – from strategy through launch – and what sequence make sense for your business?

Who is/should be involved in the process and in what capacity?

What key activities, deliverables, and performance review metrics (  ) are most appropriate?

Have you designed key marketing tasks early into the process?

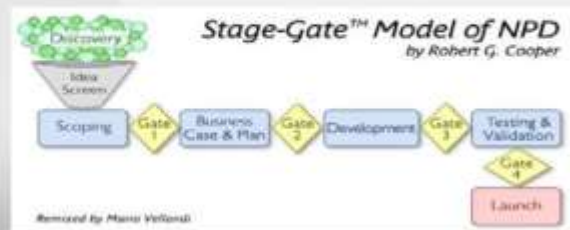
# Stage-Gate Process™

A process pioneered by Dr. Robert Cooper that divides the development effort into distinct time-sequenced stages separated by management decision gates. Multifunctional teams complete each stage prior to obtaining approval to proceed to the next stage.

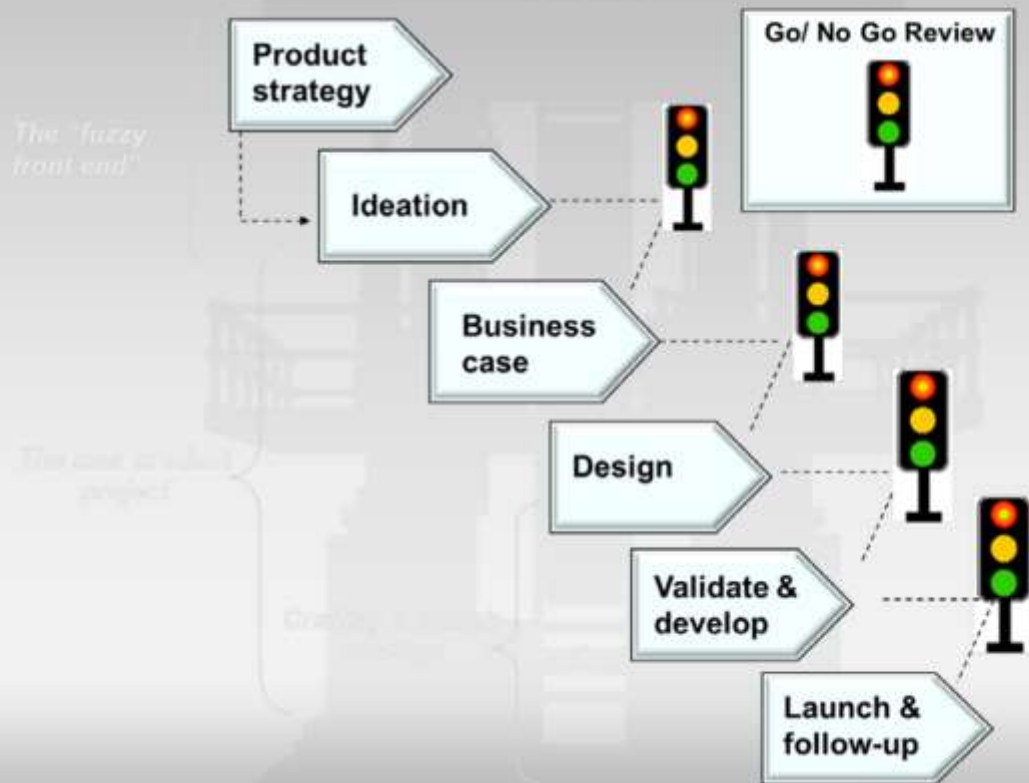
This is a variation of project management applied exclusively to new product development.

The emphasis is on a single project or portfolio.

Variations may be called gates, checkpoints, stoplights, project reviews, etc.



# DECISION *reviews*





# The review process

## Idea

*Does the concept have merit for us?*

## Business case

*Is it economically and technologically feasible?*

## Design

Is the concept sufficiently defined to justify capital expenditures?

## Validate & develop

Is the entire company ready for full-scale ramp-up and execution?



## Two types of reviews



Portfolio reviews re-prioritize projects to balance the overall portfolio and improve resource allocation.

- conducted by management team
- perhaps 2-4 times per year

Project reviews focus on individual new product projects.

- meetings between project team and management team
- conducted at each stoplight
- may also require reprioritizing the individual project within the portfolio

Purpose: quality control and decisions

- A series of reviews *incrementalize* the decision process



## There is no ONE right metric

Financial comparisons (most common)

- NPV, payback, IRR
- productivity index ( $\text{NPV} \div \text{resources remaining}$ )

Checklists

- Yes/no

Scorecard models

- Weights
- Ratings



# Example portfolio review matrix

	Weighted value	Prod 1	Prod 2	Prod 3
Fit in product mix	3	1 3	3 9	2 6
Patentability				
Low risk of competition				
Existing channels				
Fit with strategy				
Payback of x years				
ROI of x%				
Tooling & machinery				
Core technologies				
	Total	38	42	26



# Product Strategy

*The "fuzzy front end"*

Product strategy

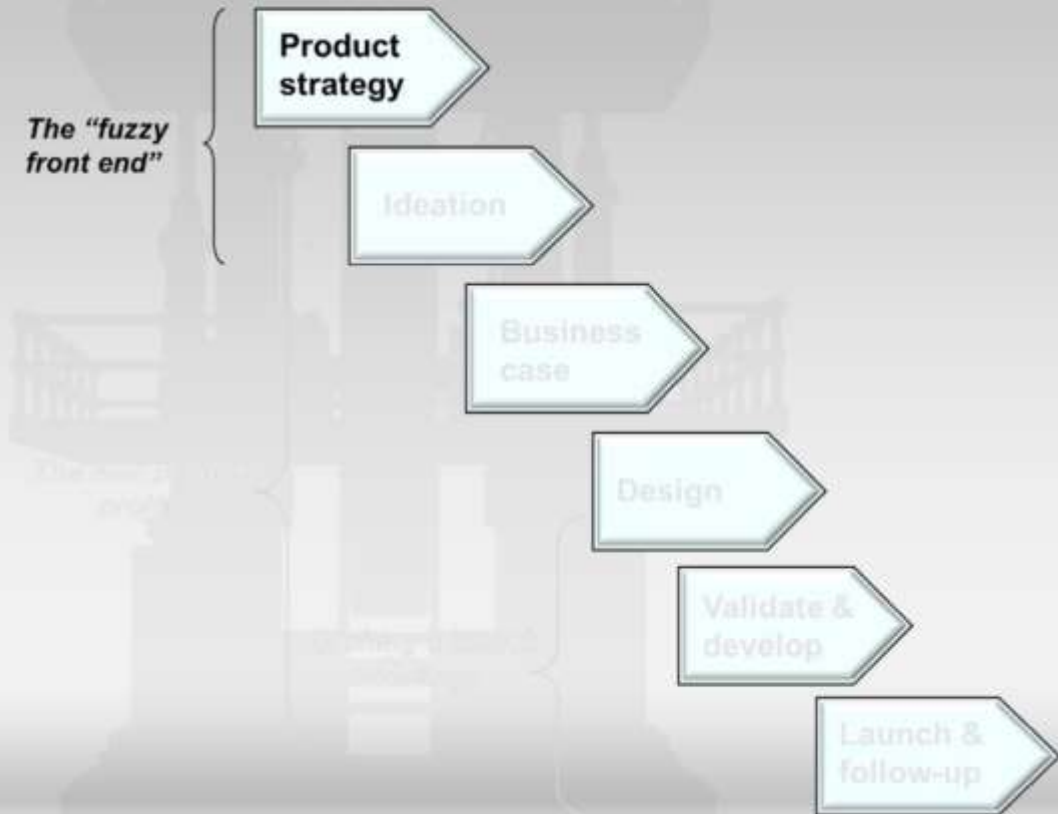
Ideation

Business case

Design

Validate & develop

Launch & follow-up





## **Product Innovation Strategy**

Product strategy is a foundation element of the process

- It precedes project-specific considerations of product development

The core strategy should include both new (innovation) and existing products.

The innovation strategy should consider the portfolio and pipeline of new products.



## **Innovation strategy components**

### Statement of goals

- e.g., % sales from new products, diversification, market dominance

### Areas of focus

- e.g., which competitors, markets

### Alignment with corporate direction

- e.g., fast follower or innovator

### Resource commitment

### Relevant platform and roadmap issues

# Roadmap basics

A product roadmap is the business plan for the product owner:

- containing probable scenarios based on current expectations, forecasts & assumptions,
- to aid in managing a product line's growth

A roadmap is not a project plan, but rather a strategy, business planning and communication tool.





## NPD Agenda: Day Two

Strategy,  
Structure &  
Process

Foundation  
elements

Overview of  
new product  
processes

**Building a  
business case  
for your  
product**

Ideation &  
research

Building the  
business  
case &  
design

**Development  
and launch  
activities**

Validate &  
develop

Launch &  
post-launch  
efforts

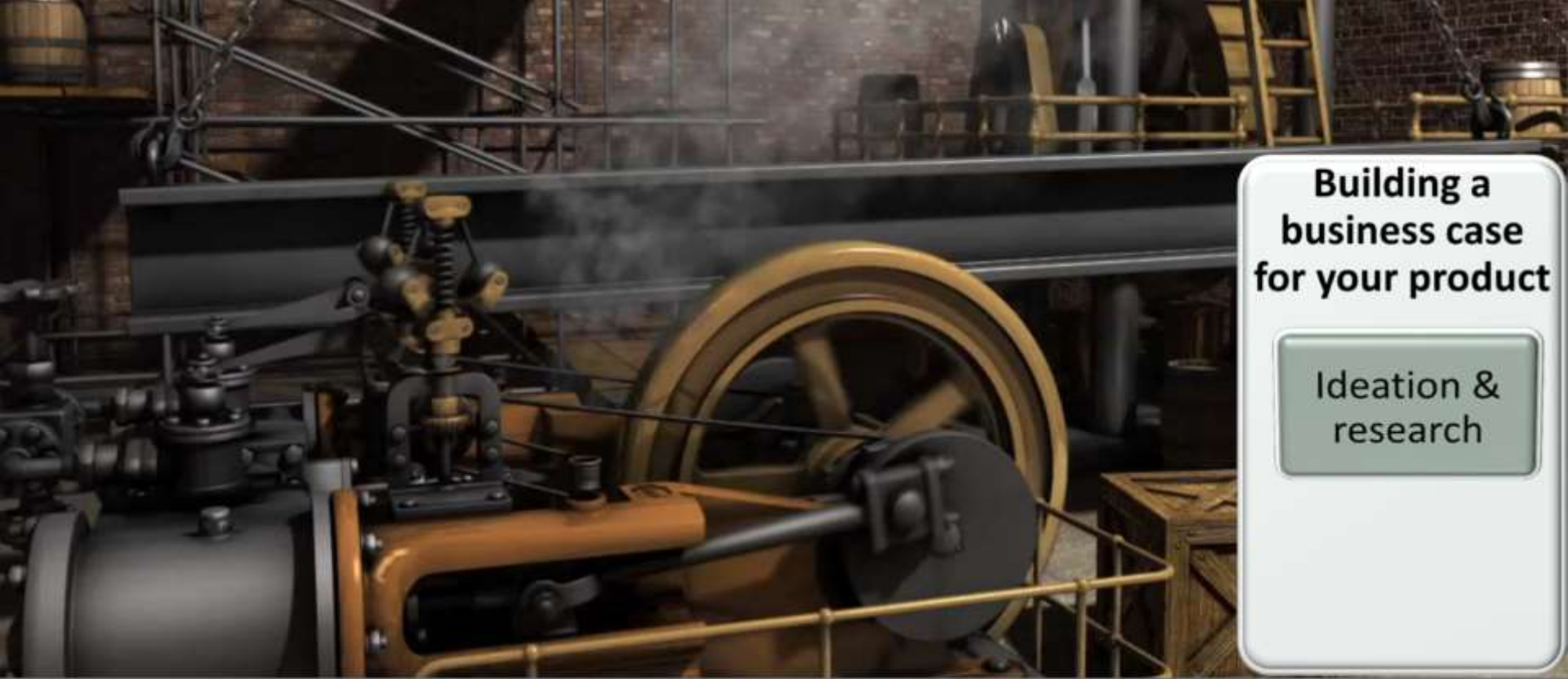


## **After this second day's session**

You should be better able to

- Expand your idea sources
- Assess the value (and risks) of new product concepts, using appropriate evaluation criteria
- Translate VOC into requirements
- Fine-tune forecasting savvy
- Establish objectivity in crafting a business case





**Building a  
business case  
for your product**

Ideation &  
research

**Moving beyond strategy**

Generating ideas and refining concepts



# Ideation

*The "fuzzy front end"*

Product strategy

**Ideation**

Business case

Design

Validate & develop

Launch & follow-up

*Creating a business plan*



A vertical image on the left side of the slide showing a close-up of industrial machinery, including a large flywheel and various pipes and structures, set against a dark, textured background.

## Let's discuss how to ...

- Create novel product and market opportunities through ideation
- Estimate rough market potential
- Capture voice of the customer for concept refinement, positioning and target pricing
- Estimate sales for the business case





## Ideation phase

Ideation is the process of exploring diverse and potentially “hidden” ideas for new products and services

It should flow from (or at least not be inconsistent with) product strategy initiatives

The output should be a preliminary description of a product concept from the gathering of inexpensive information – although this step may “bleed into” the business case phase

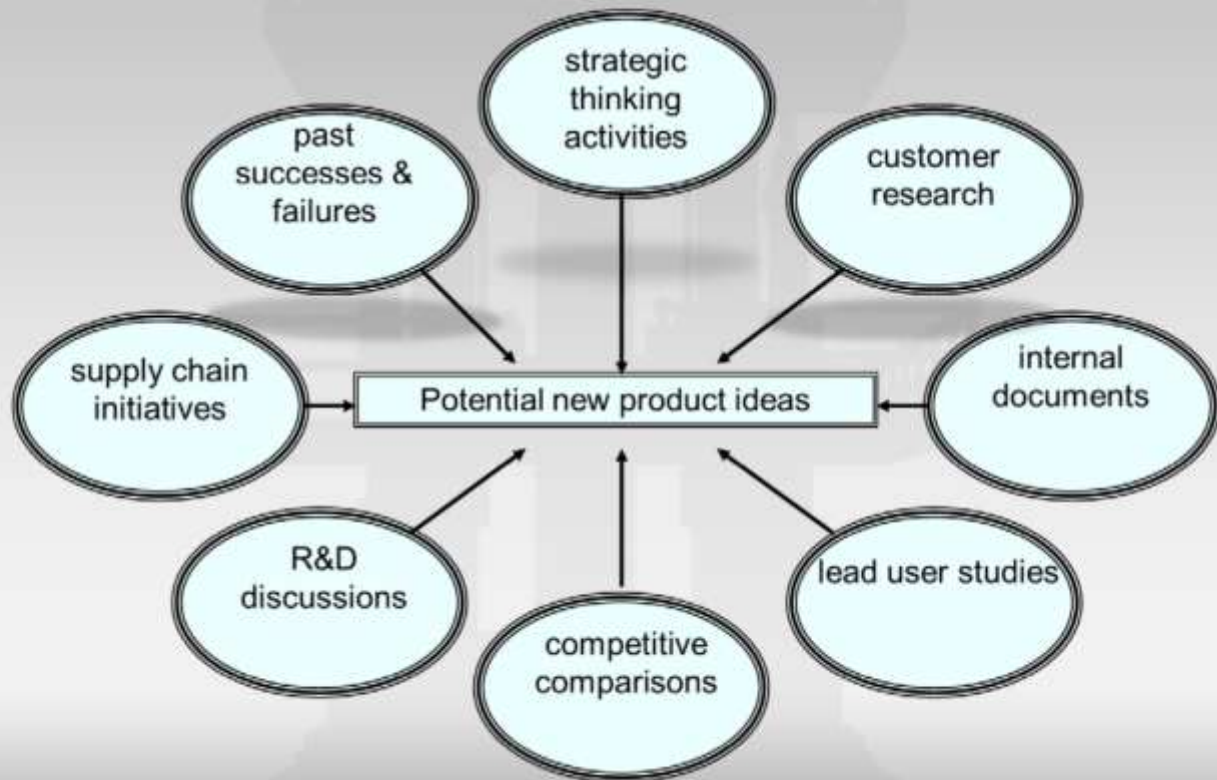


## Activities of ideation

- Identify sources of ideas
- Stimulate idea flows
- Enrich ideas
- Rank ideas
- Re-evaluate “shelved” ideas
- Catalog ideas and concepts



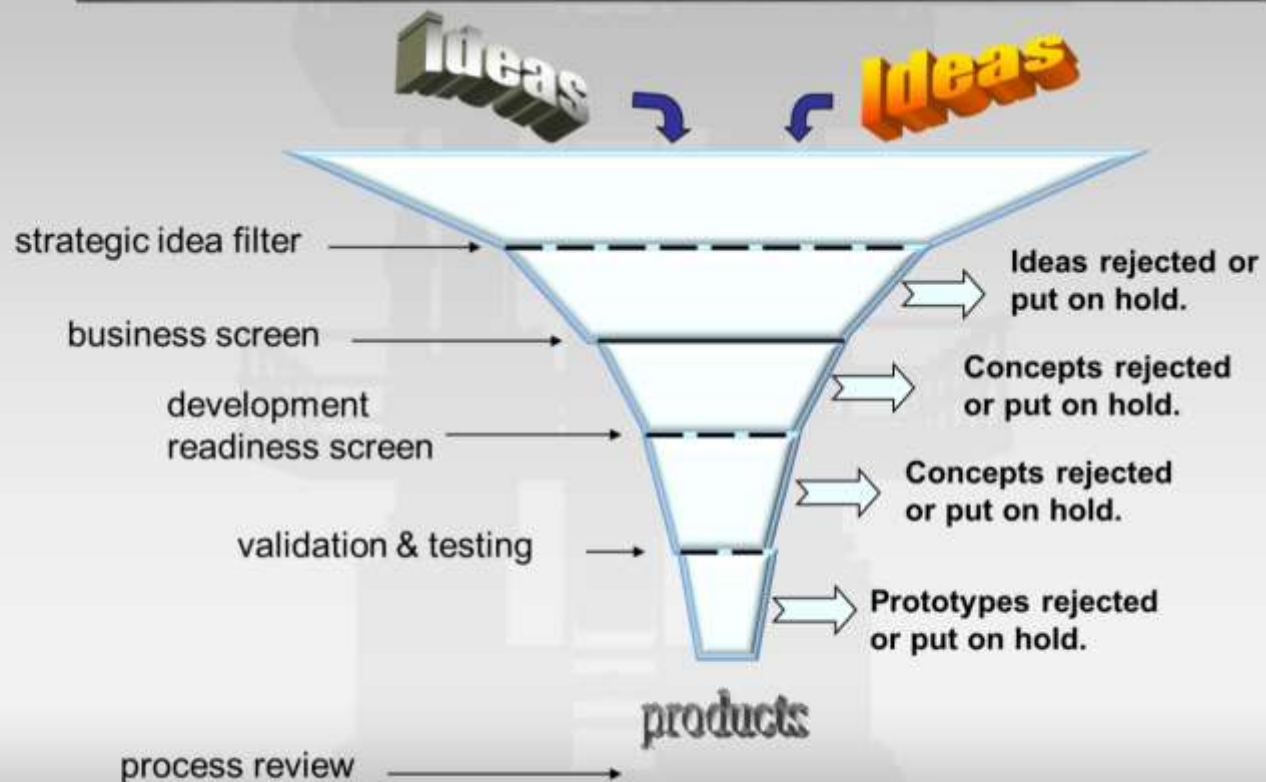
# *Expand your idea sources*



# Henry Chesbrough: Open Innovation

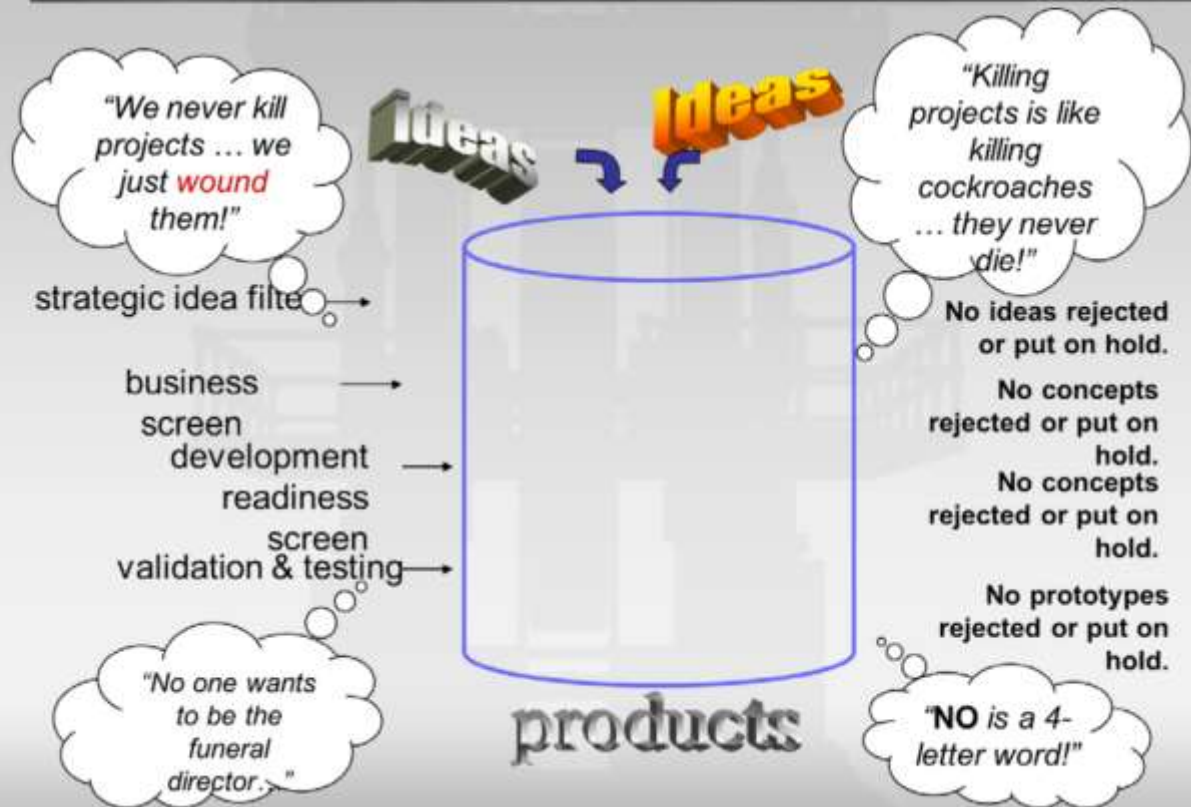


# Use an idea funnel approach





# Avoid idea tunnel





## Example criteria to consider

Fit within the company's business and culture

Compatibility with the company's core technologies

Compatibility with the company's marketplace niche

Ability to satisfy a specific customer need

Possibility of achieving major market share

Potential sales and profits

Net present value return

Time for payback of development costs

Cost of major tooling and machinery

Susceptibility to competitive attack

Fit within with capabilities of existing and contemplated staff

Growth potential of the product line



## Example criteria to consider (cont.)

Possibility of follow-on products

Likelihood of being first in the marketplace with the new product

Possibility of catching the competition by surprise

Location of the market (local, national, or international)

Existence of a channel to the marketplace

Potential downside risks of proceeding

Potential risks of not proceeding

Possible synergistic effect with current product lines

Existence of identified lead customers

Development cost and time

Existence of a product champion



## Example criteria to consider (cont.)

Patentability and trade  
secrecy

Likelihood that the new  
product will provide distinct  
competitive advantages to  
the company

Availability of technology

Resources required

Ability to leverage available  
technology

Urgency and criticality

Uniqueness

Technical merit

Possibility of creating or  
dominating a niche market

Speed of entry into the  
marketplace

Philip A. Himmelfarb,  
*Survival of the Fittest*



# Ideation approaches

Trend capturing

Lead user studies

Design thinking

Ethnographic methods

What if .... ?





## How to capture trends

Skim information sources expansively

- Monitor a broad range of publications/online sources
- Read local papers when you're traveling

Share trend-watching with others

Be alert in observation

Test media new to you

Periodically look for connections

- Content analysis





## Lead user studies

Network to identify people, industries or groups who have the greatest need (and likelihood) to have solutions for components of the problem you are trying to solve

Collect insights from different types of lead users

Adapt concepts to your internal requirements



## Ethnographic methods

### Some categories

- Client visit programs
- Customer and consumer observation
- Digital tracking

### Some considerations

- Maintain a “real-world” context
- Most ethnographers conduct verbal interviews in addition to observation
- Face-to-face is preferable to remote or group techniques
- Collect the customer’s own words





# Ethnography



Applied  
Marketing  
Science, Inc.

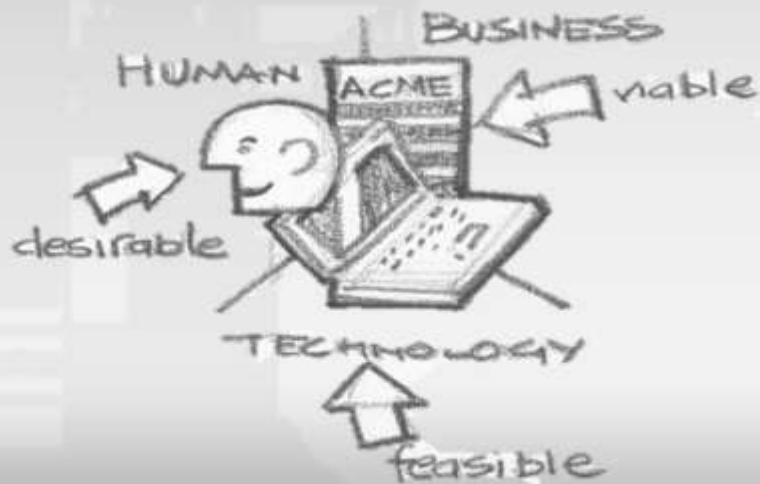
What are the benefits and  
drawbacks of Ethnography?

**Gerry Katz**

*Executive Vice President  
Applied Marketing Science, Inc*

# Design Thinking

Product design is the set of holistic properties of integrated form and function, of aesthetics and utilitarian benefits





# IDEO Design Thinking





## What if ... ?

### Free-flowing brainstorming

- Change lenses
- Challenge orthodoxies
- Break patterns
- From literature and/or patent search
- From competitive comparisons

### Directed product-question techniques

- SCAMPER

### Open-ended customer questions



## Market potential for “raw” ideas

Assesses the *potential* for industry sales

- Overall market size
- Market segment growth rates

Estimates from secondary data

- Government statistics
- Industry data

Estimates from primary data

- Sales force & channel estimates
- Panel consensus
- Delphi & visionary forecasts



## **Study market-based value**

By type of new product:

Innovative products and services:

- Functional substitute analysis

Imitative products and services:

- Conjoint analysis
- Economic value analysis
- Subjective comparisons



## Estimate value of “innovative” products

### Functional substitute analysis

- How is the basic function performed now?
- What do the present methods cost?
- What improvements are needed in the present method?
- What value would improvements have?



## Example

Mailmobile savings in delivery costs:

Annual savings in mail delivery related to:

- messenger time per run
- number of runs per day
- messenger cost per year
- working time per day



**MAILMOBILE**<sup>®</sup>







## Estimate value of “imitative “ products

### *Economic value analysis*

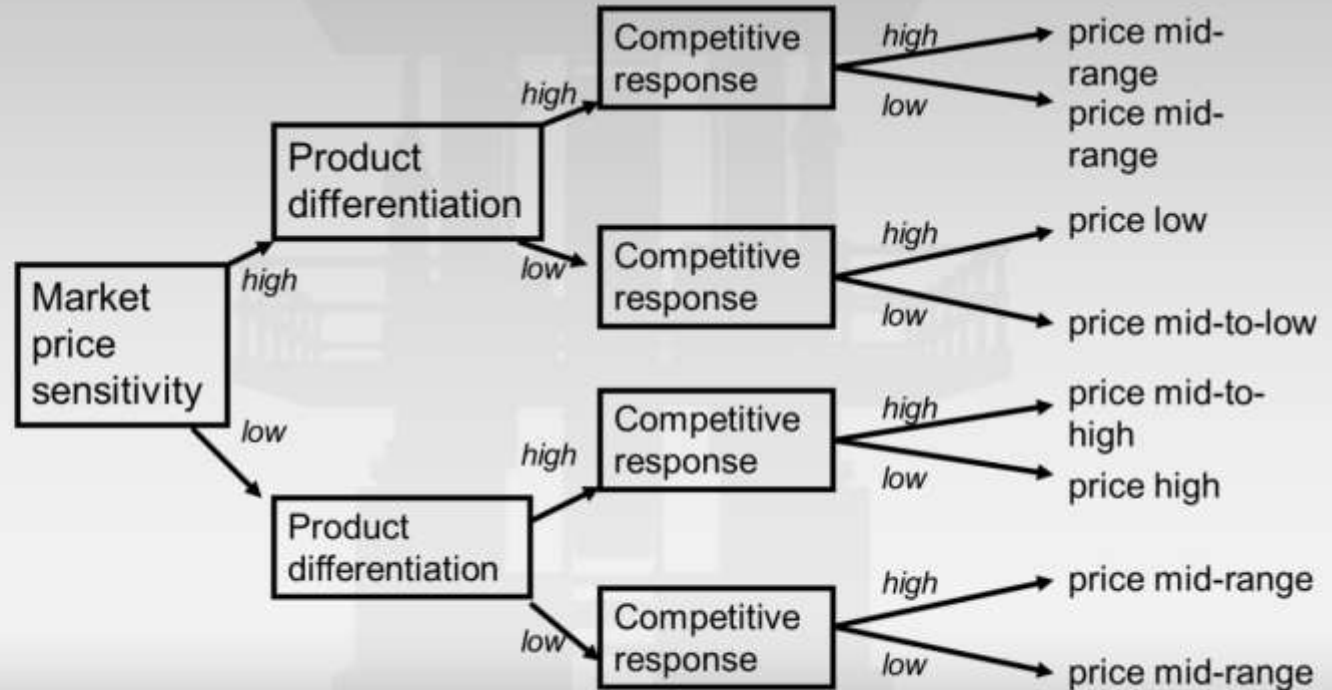
<b>Competitor's price</b>		<b>\$5,000</b>
<b>Benefits</b>		
<b>Longer life</b>	<b>500</b>	
<b>Lower failure rate</b>	<b>250</b>	
<b>Savings</b>	<b><u>1,000</u></b>	
<b>Total savings</b>	<b>1,750</b>	
<b>Switch-over costs</b>	<b>- <u>500</u></b>	
<b>Economic value</b>		<b>1,250</b>
<b>Incentive to switch</b>		<b>- <u>750</u></b>
<b>Net additional benefit</b>		<b><u>500</u></b>
<b>Your price</b>		<b>\$5,500</b>



## Example trade-off table for a video conference office telephone

<b>Clarity of picture screen</b>	<b>Video Conference Telephone Price</b>		
	\$50	\$100	\$500
<b>High clarity</b> <i>(comparable to HD)</i>	1		
<b>Medium clarity</b> <i>(comparable to a standard digital TV)</i>			
<b>Low clarity</b> <i>(comparable lower-resolution cell display)</i>			9

# Some factors affecting pricing decisions





## Preliminary sales forecasts

The more you know, the smaller the opportunity

Ask '**why**' customers will buy and '**why not**'

Downscale market potential through segment reduction



## Concept testing

The process by which a concept statement is presented to customers for their reactions. These reactions can either be used to permit the developer to estimate the sales value of the concept or to make changes to the concept to enhance its potential sales value.

- PDMA website glossary

*Note:*

*Informal concept testing may be part of the ideation phase, with more formal concept testing being conducted as part of the business case development. Customer input might be obtained throughout the process.*



## Concept development

Product or service diagnostics & dashboard

Overall attitude toward product

- liking, believability and intention-to-buy

Attribute ratings

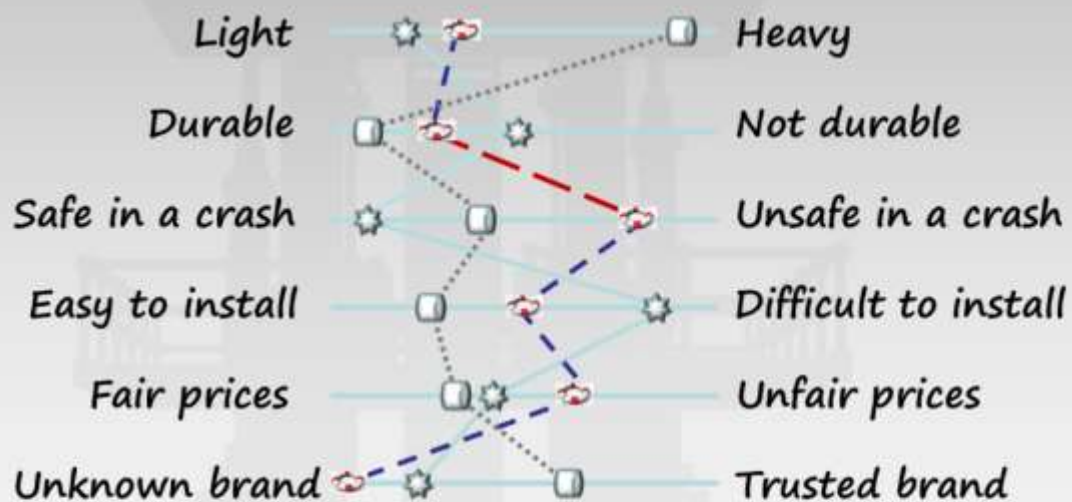
Competitive positioning

- customer perceptions

Channel feedback



# Competitive product scaling



Product A



Product B



Product C





## Refining initial sales estimates

- market potential (*from secondary and expert sources*)
- x market share (*from your share on similar products*) **OR**
- x % likely to buy (*from customer surveys & channel input*)
- x expected number of purchases (*from customer input*) x price
- = ***preliminary sales forecast***
- ± impact of market friction (*internal assessment*)
- ± corrective action taken by company to affect market friction
  - any cannibalization of existing products (*internal assessment*)
- = ***net sales forecast***





# Projections

The initial sales numbers should be projected into the future, taking into account business cycles, seasonality, growth curves of analogous products, and other relevant adjusting variables





# Forecasting comparisons

	Forecasting existing products	Forecasting new products
Data	History	Assumptions
Analytics	Statistical	Judgmental
Forecast	Point	Range
Plan	Certainties	Contingencies
Measurement	Accuracy	Meaningfulness

Source: Kenneth Kahn, "Solving the Problems of New Product Forecasting," *Business Horizons*, Sept-Oct, 2014.

# @Risk Monte Carlo Simulation

The screenshot displays the @Risk software interface. The main window shows a spreadsheet model for NPV (10%) with columns for 2010 and 2011. The NPV value is \$367,249.83. A dialog box titled "wRisk - Define Distribution: E25" is open, showing a grid of distribution options. A callout box highlights the dialog's features.

**NPV (10%)**

Year	2010	2011
Cash Flow		
Total Revenue	0	0
Cost of Goods Sold	0	0
Gross Margin	0	0
Operating Expenses	100,000.00	100,000.00
Earnings Before Taxes	100,000.00	100,000.00
Tax Basis	100,000.00	250,000.00
Income Tax	0	0
Net Income	100,000.00	100,000.00

**Market Conditions**

Parameter	2010	2011	2012	2013	2014
Number of Competitors	0	0	0	0	0
Unit Cost	\$24.41	\$25.63	\$26.91	\$28.20	
Inflation Rate	1%	1%	1%	1%	
Tax Rate	40%	40%	40%	40%	40%

**Sales Activity**

Parameter	2010	2011	2012	2013	2014
Sales Price	\$55.12	\$56.33	\$57.56	\$58.79	\$59.95
Sales Volume	5000	5000	4000	5000	7500

**@Risk - Define Distribution: E25**

Name: Unit Cost / 2012  
Cell Formula: E25

Select the distribution to use in this formula to replace the value 23.25:

General | Favorites | Discrete | Continuous | All Parameters | Special | @Risk Library | All

Lognormal | Normal | Weibull | Triangular | Uniform | Triangular | Normal | Lognormal | Weibull

@Risk's distribution previewing and data fitting features make it easy to assign the correct distribution to any uncertain value in your model. Choose a Normal distribution to describe Unit Cost.



## Projected financial analysis

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Revenue</b>	0	10,700	13,843	17,689	25,428	29,242
<b>Less cost of goods sold</b>	<u>0</u>	<u>3,583</u>	<u>4,635</u>	<u>5,923</u>	<u>8,515</u>	<u>9,792</u>
<b>Gross margin</b>	0	7,117	9,208	11,766	16,913	19,450
<b>Development costs</b>	-3,150	0	0	0	0	0
<b>Fixed costs</b>	<u>0</u>	<u>8,270</u>	<u>7,198</u>	<u>9,194</u>	<u>13,222</u>	<u>15,205</u>
<b>Gross contribution</b>	-3,150	-1,153	2,010	2,572	3,691	4,245

## Define the core project team

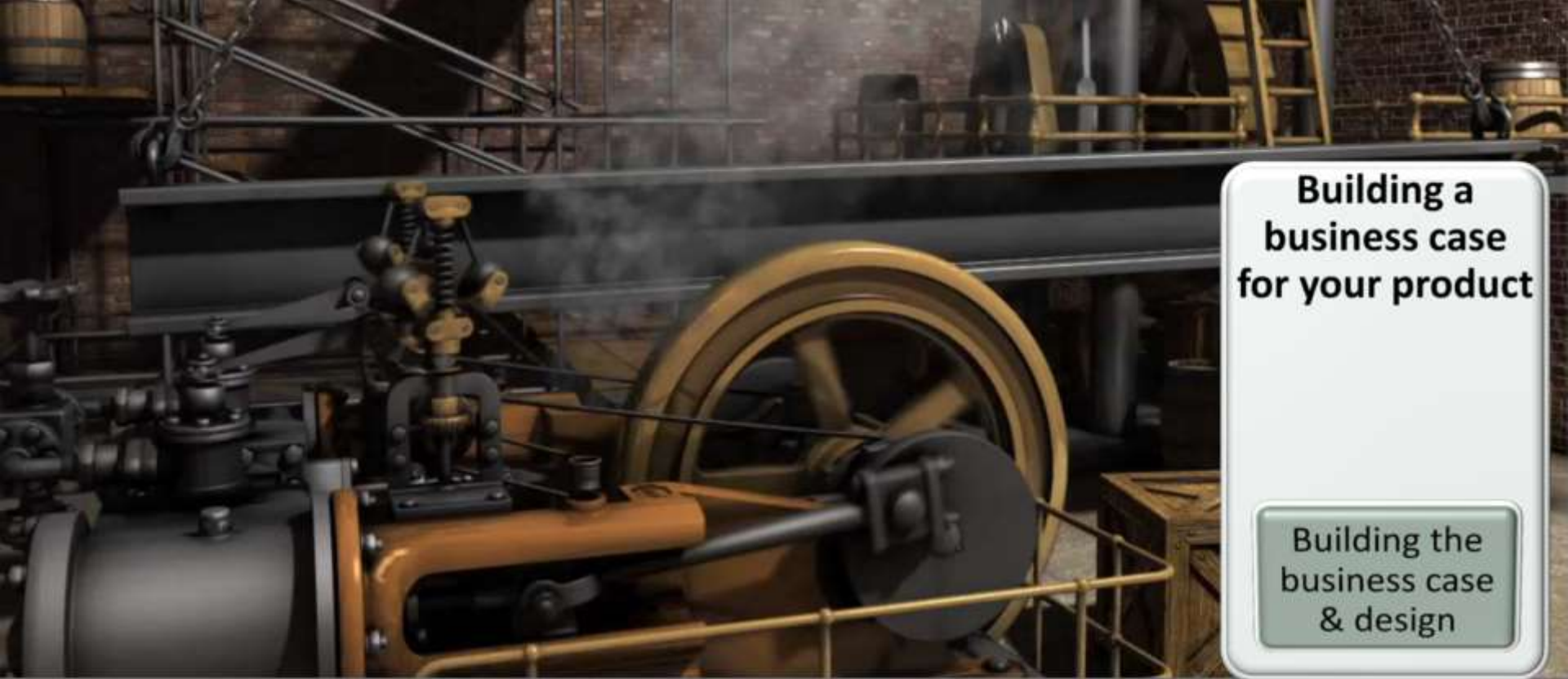
### Attributes

- Cross-functional vs. work group
- Parallel tasking
- Complementary skills
- Mutual accountability

### Responsibilities

- Product development plan
- Business case
- Functional contributions





**Building a  
business case  
for your product**

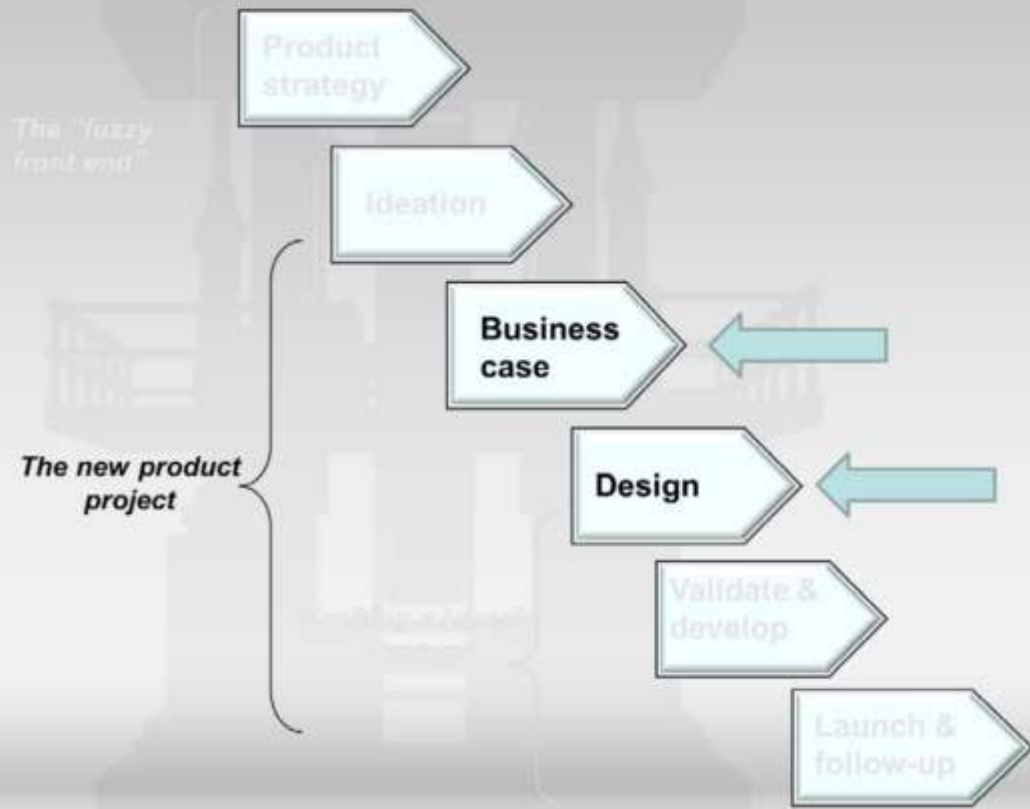
Building the  
business case  
& design

## **The business case process**

Building the case for investing in your product



# *Business case & design*





## Business case phase

The business case phase involves refining the knowledge on the

- size of product opportunities
- estimated financial performance
- manufacturability of the product
- risks and risk reduction

The output of this phase may include

- the product definition
- change from **core** to **project** team
- a detailed project plan





# Business Case Defined

**A Business Case is:**

A structured proposal for an investment (product, business, or process change) that functions as decision-support for decision-makers.

A *business case* includes:

- Concept definition
- Opportunity (or needs) assessment (technical and economic)
- Proposed benefits and costs
- Risks
- Assumptions
- Constraints
- Alternatives
- Implementation plan

Marty J. Schmidt, *The Business Case Guide*,





## Remember ...

### A Business Case . . .

- Is an economic proposal
- Is uncertain (i.e., has risk)
- Consumes resources
- Needs structure
- Should not be formulaic
- Should inform, persuade, and guide




## Product concept

Is critical to articulate **what** the product is, and **what it is not**

Definition creates **useful limits & focus** to guide downstream business case preparation activities

Affects **accuracy** of *opportunity assessment* activity

Needs to be in “plain speak”



## Dealing With Uncertainty

Uncertainty exists in all forecasts

Removing *all* uncertainty eats *all* profits

Yet, uncertainty should be reduced ...

- Build and apply financial “models”
- Use scenarios
- Focus on major friction or acceptance factors
- Forecast in increments: time, cost targets, market segments, product versions, etc.
- Learn from others, self ... “lessons learned”
- Big cause of failure: *Optimism*



## Time Effects

Time is major variable in business case

- 100% market share - but in 50 years - is probably not “success”
- Issue is the option to use money elsewhere

Model costs and sales in time periods

- Small periods at first
- Early investments hurts most
- For sales, “more and sooner” is best
- For costs, “less and later” is best

Customer behavior

- Consider sales and purchasing cycles



## Financial Evaluation - Tools

Profit = Revenues net of costs

- General; ignores effect of time

Rate of Return

- Cumulative % in versus out

NPV - "Net Present Value"

- Discounts cash flow - dollar now better than later
- Requires discount rate

IRR - "Internal Rate of Return"

- Discounts cash flow - dollar now better than later
- Imputes discount rate



## Financial Evaluation - Tools

### Breakeven

- Point where cumulative revenues exceed costs
- Not sensitive to time-value of money
- Helps determine when cash starts to flow back in

### Payback

- Time when invested money is returned (i.e., in years)
- Easy to understand and apply
- Ignores post-payback money, risk, and time value of money



## Translate VOC to requirements

Solicit input from customers who are knowledgeable and cooperative

Test among larger group of customers

- Compare several versions of a concept
- Assess “value” and intent to buy

Assess technical feasibility

Convert benefits to “designable” characteristics

Revise metrics based on competitive positioning



# Requirements table

1 Needs	2 Importance	3 Initial metrics	4 Competitor A	5 Competitor B	6 Revised Metrics
Lightweight	Must	Total mass in kg.	Competitor A will be lighter than concept	Equal	Need to reduce the mass
Can withstand rain and water contamination	Must	Time in spray chamber without water entry	Concept is better than A	Concept is better than B	Continue with initial metrics.
Safe in a crash	Must	Bending strength of materials	Competitor A has superior bendability	Competitor B breaks sooner	Improve bending strength to match or surpass Competitor A
Easy to install.	Should	Average time to assemble	Concept has quicker time than for A	Concept as quicker time than for B	Good performance as long as it does not add cost
Works with a variety of attachments	Should	List of attachments & sizes	Similar product line fit.	Similar product line fit	Continue with initial metrics
Competitively prices	Must	Target cost range	On track to be competitively priced	On track to be higher priced	Maintain target cost range and determine how to help customers perceive value

Note that the importance column should suggest what benefits (functionality) are required, nice to have, or in some cases, critical to avoid.

Note that metrics deal more with functionality than with features

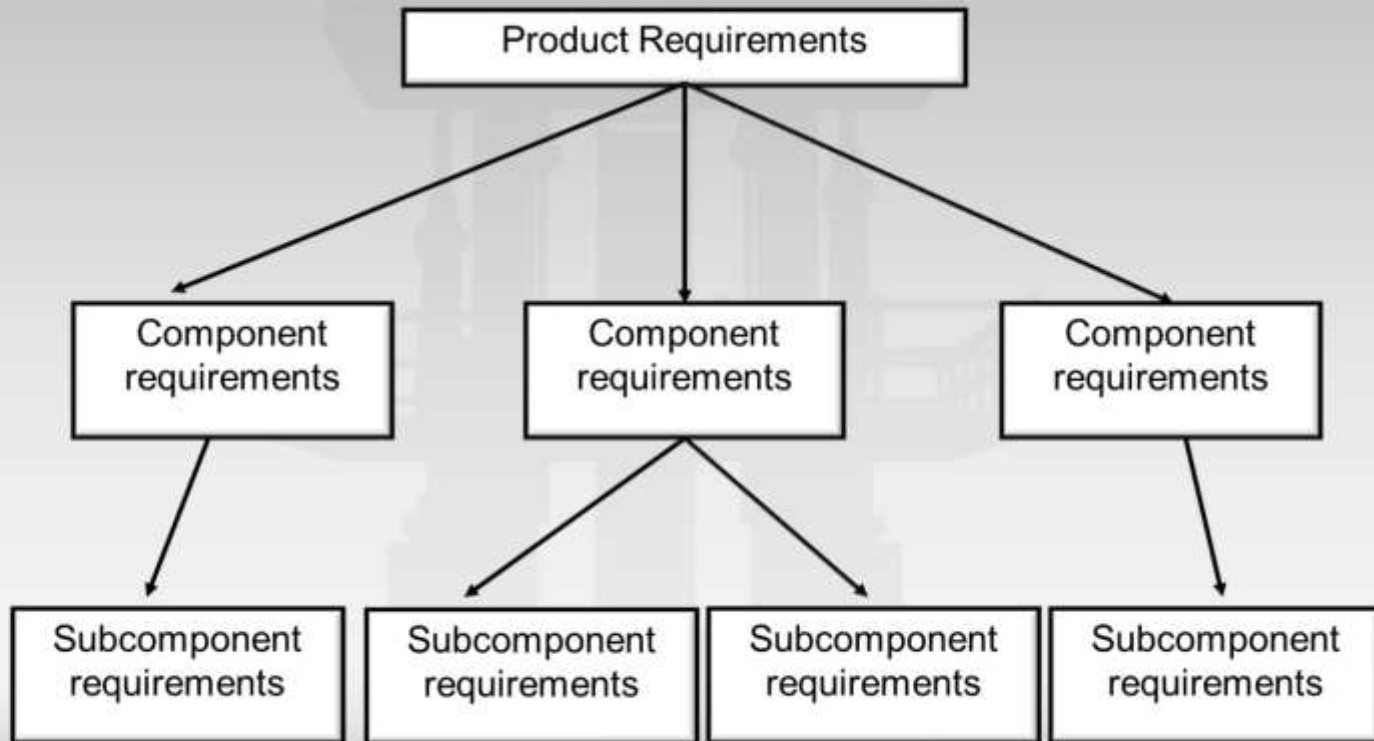
**Profile:** Define the target users in demographic and psychographic terms. Include a statement on the impact of influencers on the purchase decision.

**Use Situation:** Describe where and how target customers would use the product. Incorporate any insights from observation and design thinking activities.

**Non-functional requirements:** List any aspects of the product that may be important design parameters (such as appearance or feel) that may be necessary parts of the product even if they do not provide functional benefits.



# Specify all requirements





## Pre-evaluate the business case

Ask yourself (negative questions):

- Why isn't this already in the market?
- What is a functional substitute and how is it doing?
- Who is better positioned to sell and deliver this?
- How can we fail?
- How would we attack or cause a competitor to fail if they introduced this?

Ask yourself (positive questions):

- What should we have or do to feel 100% confident (if I or a loved-one were to be solely responsible for the success of the new product)?
- What would bring success faster?

# Business case components



ASSUMPTIONS





## Business case review

Will the product as defined provide the customer benefits sought earlier?

Will it pass the appropriate review criteria for your company?

Does the entire team agree on the defined product requirements?

Is the product defined precisely enough to move to development?

Would it still pass the earlier screens?



## Key deliverables

Detailed product definition including features and performance requirements (i.e., desired customer benefits)

Creation of a team “contract” signed by all specifying the target market and freezing some or all aspects of the product definition



## NPD Agenda – Day Three

Strategy,  
Structure &  
Process

Foundation  
elements

Overview of  
new product  
processes

Building a  
business case  
for your product

Ideation &  
research

Building the  
business case  
& design

**Development  
and launch  
activities**

Validate &  
develop

Launch &  
post-launch  
efforts

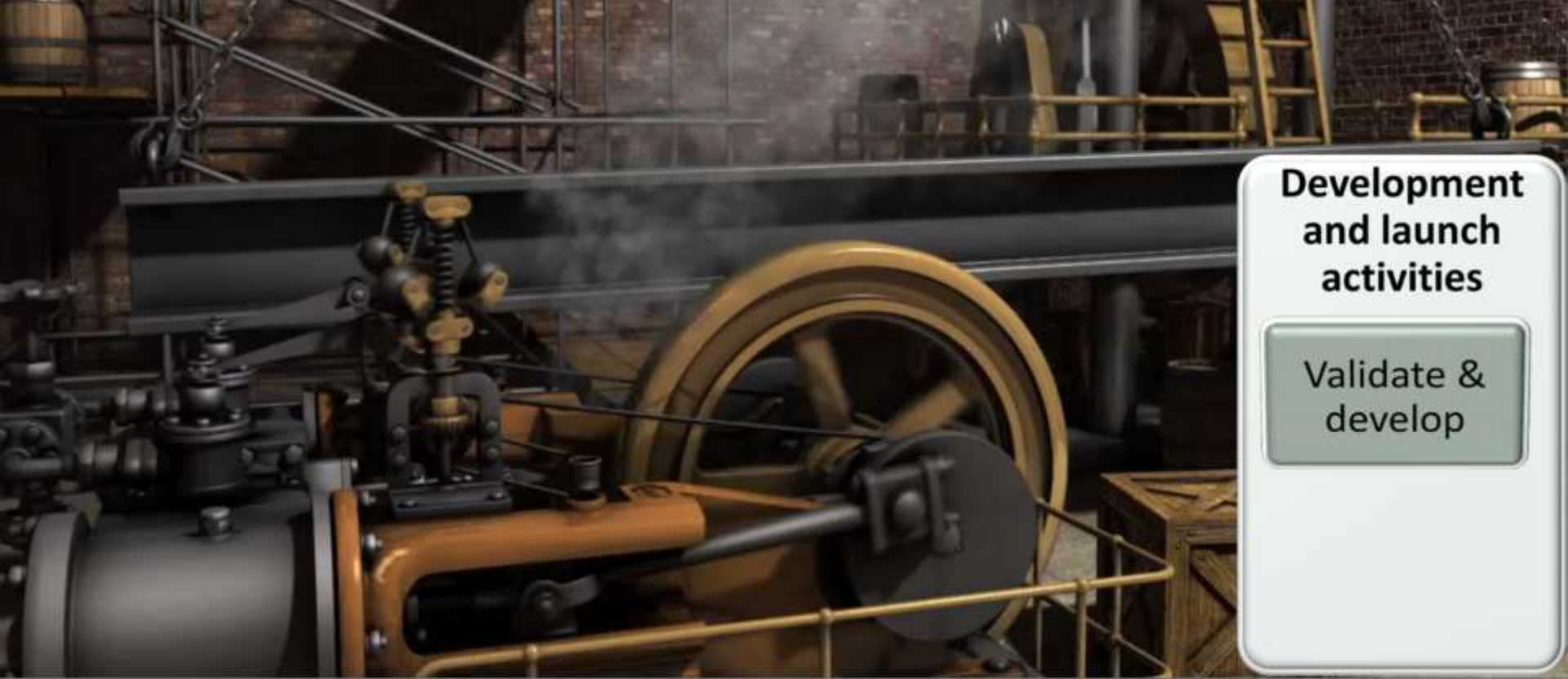


## After this final session ...

You should be better able to:

- Maintain team alignment with the business case to reduce scope creep
- Understand requirements of gate reviews
- Manage usability testing
- Guide the project of launch planning and execution
- Establish tracking metrics and red-alert strategies
- Complete post-launch follow-up





**Development  
and launch  
activities**

Validate &  
develop

# The development project

Team coordination & product validation

# Product development & validation

*The "fuzzy front end"*

*The new product project*

*Crafting a launch strategy*

Product strategy

Ideation

Business case

Design

Validate & develop

Launch & follow-up





## Development phase

Team management process

- Stay aligned with the business case
- Control scope creep

Gate review meeting oversight

- Maintain ongoing communication with management

Continued product & quality testing

Systems check

Creation of launch plan

- Preparing launch team, plan & programs



## What is scope creep?

Scope creep is defined as adding features and functionality (project scope) without addressing the effects on time, costs, and resources, or without customer approval. (PMBOK)





## **Team decisions & processes**

Who should be the team leader and why

Functional vs. co-location

Amount of time devoted to project

Establish mission and roadmap

Integrate knowledge, project & risk management

Avoid motivational mistakes

# Team Structure

*Transparent*



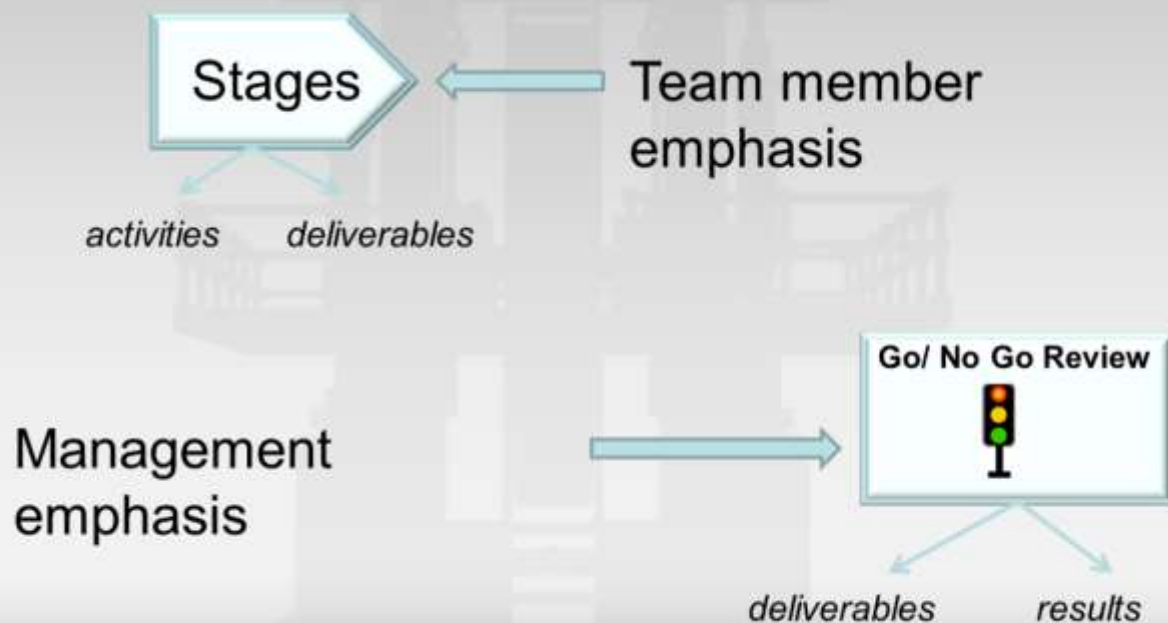
*Heavyweight*



*Autonomous*



# Differing views of stage-gate





## The validation & testing phase

This phase involves extended product tests, most likely a combination of in-house (alpha) and external (beta) trials

Tests may be conducted prior to, simultaneously with, and/or after development





## Usability – prototyping

### Alpha

- Prototype testing within the organization

### Beta

- Prototype testing with potential buyers

### Gamma

- Tests conducted among stakeholders who are potential influencers of or barriers to new product acceptance

### Delta

- Monitoring wear of product during usage



## Beta program decisions

What is the “ideal” profile of beta test sites?

How many test sites (and why)?

How long should the program be?

Who pays for what?

What are the mutual communication and support requirements?





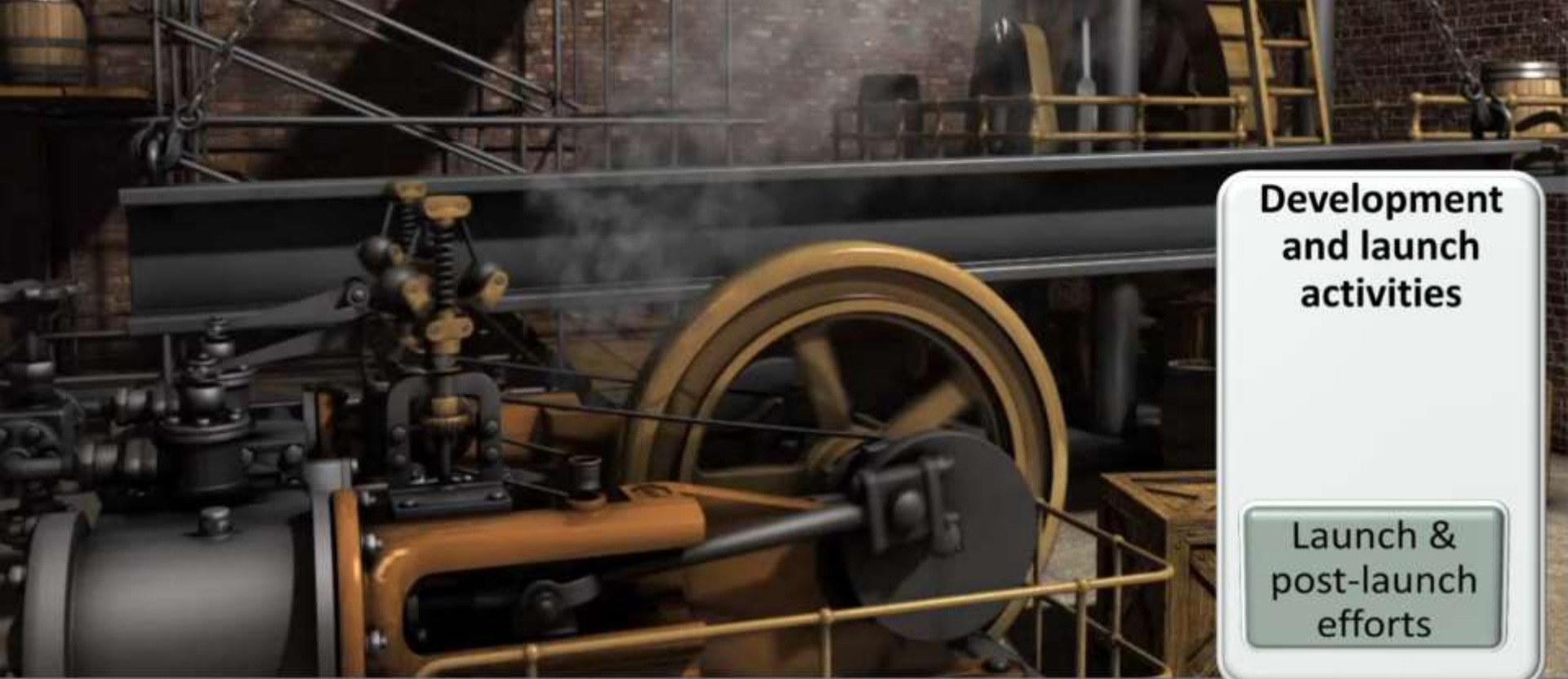
## Is everything ready?

- Ensure offer readiness
- Work with sales administration, H.R., or relevant departments in charge of training to ensure knowledge readiness
- Verify that systems are in place for ordering and support

*Are  
You  
Ready?*



	Who?	Due date	Contingencies
<b>Product reality check</b> <ul style="list-style-type: none"><li>- does it fulfill the original idea?</li><li>- does it still fit the market?</li><li>- is there competitive superiority?</li></ul>			
<b>Packaging</b> <ul style="list-style-type: none"><li>- will it facilitate storage, use, transport and convenience?</li><li>- does it provide customer-friendly information?</li></ul>			
<b>Regulatory approvals &amp; standards</b> <ul style="list-style-type: none"><li>- have all country, governmental and industry approvals been obtained?</li><li>- can you demonstrate compliance and efficacy?</li></ul>			
<b>Systems readiness</b> <ul style="list-style-type: none"><li>- is IT ready for ordering and billing?</li><li>- are preliminary production runs complete?</li></ul>			
<b>Service &amp; tech support</b> <ul style="list-style-type: none"><li>- is infrastructure in place?</li><li>- warranty programs ready?</li><li>- service programs defined?</li><li>- spare parts, loaners, upgrade tools?</li></ul>			
<b>Logistics</b> <ul style="list-style-type: none"><li>- process map for physical movement to customer's location</li></ul>			
<b>Marketing decisions</b> <ul style="list-style-type: none"><li>- pricing policies by market</li><li>- roll-out sequence planned</li><li>- marketing communications on track</li></ul>			
<b>Marketing support</b> <ul style="list-style-type: none"><li>- sales &amp; customer service training set</li><li>- kick-off events and activities planned</li><li>- collateral material ready</li></ul>			



**Development  
and launch  
activities**

**Launch &  
post-launch  
efforts**

**Commercialization**

Launch and follow-up activities

# Prepare documents in advance





# Launch & follow-up

Product  
strategy

*The "fuzzy  
front end"*

Ideation

Business  
case

*The new product  
project*

Design

Validate &  
develop

*Crafting a launch  
strategy*

Launch &  
follow-up





# Launch is another project to manage

**Who** is the primary target market?

**What** specifics do you need to ensure?

**When** should you plan your launch?

**Where** should you launch the product?

**Why** is your product better?

**How** should you market your product?





# Who

## is the primary target market?



New or existing  
customers

Demographics

Psychographics





**Are you using  
the “right”  
variables to  
define the  
target  
segments?**



# Consumer Market Segmentation

## Demographics

- Age, gender, income

## Geography

- Country, urban/rural

## Psychographics

- Attitudes, interests, lifestyle

## Family life stage

- Single, family, empty nester

## Situational factors

- Urgency, order size, gift



# Psychographics model



# Six Key Premium Wine Consumer Segments



## ENTHUSIAST

Passionate about entire wine experience – 12%

## IMAGE SEEKER

Need to feel sophisticated & trendy – 20%

## SAVVY SHOPPER

Looking for a great wine at a great value – 15%

## TRADITIONALIST

Look for wine from well-known wineries – 15%

## SATISFIED SIPPER

Want a sensible choice they can be comfortable with – 14%

## OVERWHELMED

Want good shelf description or staff recommendation – 23%

Source: Research conducted by Constellation Wines U.W. Called "Project Genome, the information was based on 3,500+ online interviews covering 7,400+ bottles of wine, completed 08/08/2010.

# B2B Market Segmentation

## Firmographics

- Size, location, NAICS

## Operational

- Capabilities, user/nonuser

## Purchasing

- Centralized/decentralized

## Personal characteristics

- Demographics, psychographics

## Situational factors

- Urgency, order size



## Demographic (firmographic) factors

Segment by:

Industry (SIC)

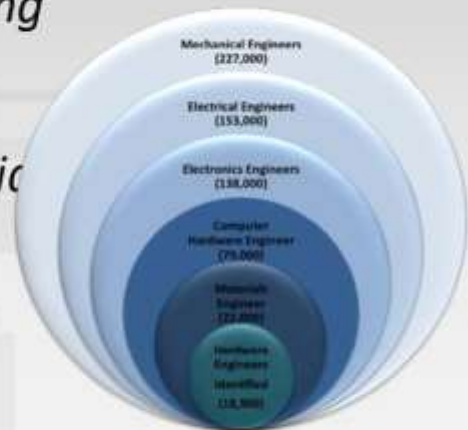
- *e.g., mining, utilities, manufacturing*

Location

- *United States, Canada, Mexico, Asia*

Company size

- *small, medium, large*



## Operational factors

Segment by:

User, nonuser status

- *products, competitor's customer*

Customer capabilities

- *tech support, etc.*





# Xiameter market segmentation

## Xiameter market segmentation

*Business Model Innovation for Strategic Growth  
– Launching the Dual-Brand Strategy*

**Tom Cook**  
Corporate Vice President  
Northeast Asia President  
Dow Corning Corporation

DOW CORNING

*We help you move the world.*

*Silicones Simplified*  
**XIAMETER**<sup>®</sup>  
*from DOW CORNING*

© 2015 Dow Corning Corporation  
All Rights Reserved



## Purchasing factors

Segment by:

- Purchasing function (centralized vs. decentralized)
- Domestic versus global purchasing
- National account?
- Transaction vs. systems purchase



## Situational factors

Segment by:

Specific application

- *e.g., resource extraction, manufacturing process, remediation*

Size of order

- *revenue or profit*

Other need factors

- *e.g., urgency, customization*



## Personal factors

Segment by:

Demographic characteristics

- *titles, education, age*

Psychographic characteristics

- *risk tolerance, innovation perspective*

**Who determines if the  
sale is made?**



# What

## specifics must you ensure?



Product attributes

Brand

Solutions attributes

Price/value fit

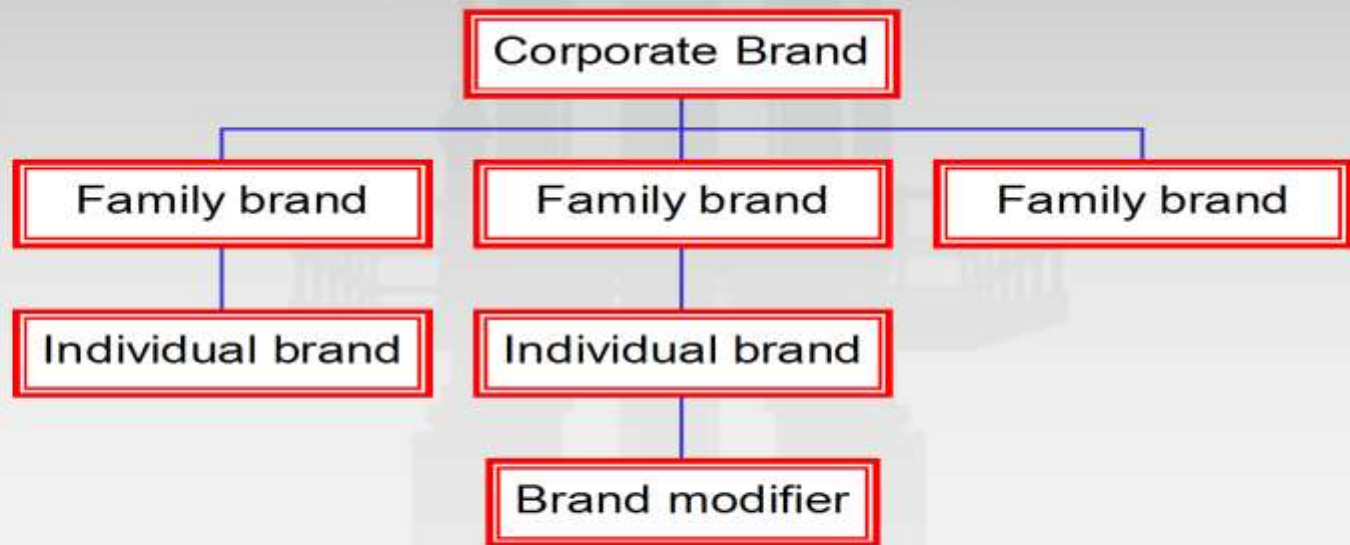
# What is a brand?



At its core, a brand is a distinctive symbol (name, term, number, design, etc.) that uniquely identifies a product, service, company, organization, or offering.

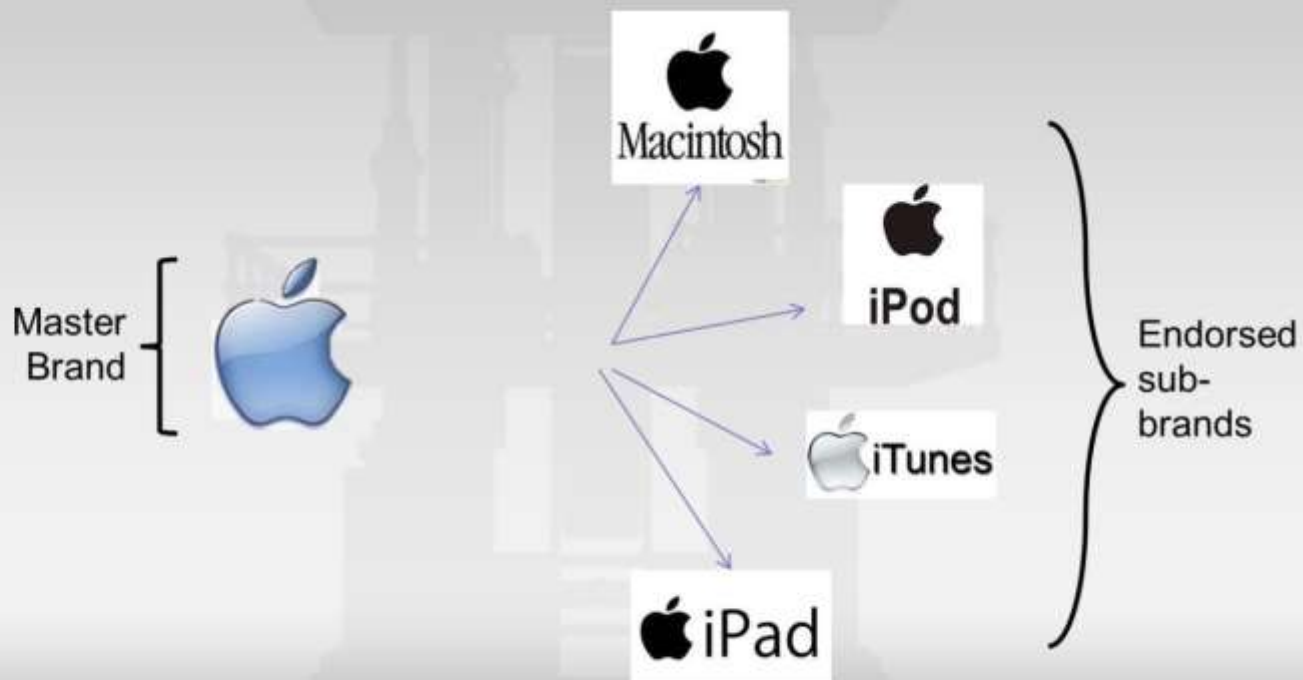
*However a brand goes beyond mere recognition to carry evaluative meaning. It implies some promise or contract of performance. It is the mental "stereotype" or "executive summary" of what the brand stands for. The visual and auditory symbols are created by the seller, but the meaning is in the minds of customers and stakeholders.*

# Brand Hierarchy





# Apple brand architecture: a branded house



# House of brands architectures



**P&G**



# GM brand architecture: a hybrid approach

## GM GLOBAL BRAND STRATEGY

GM Brand	Portfolio Role	Core Brand Promise	Area Focus
 Chevrolet	Global Mainstream	Cars for Life's Journey	Global
 Cadillac	Global Luxury	Red-blooded Luxury	Global
 Buick	Regional Luxury	Inviting Luxury	NA, China
 GMC	Regional Premium	Professional-grade-up for the Challenge	NA
 Opel	Regional Mainstream	Forward-thinking Cars for Real Life	Europe / Russia
 Vauxhall	Local Mainstream	Forward-thinking Cars for Real Life	U.K.
 Holden	Local Mainstream	World-class cars for Australian "Go"	Australia

# Tangible brand elements

Trademarkable or recognizable aspects such as:

– Brand names

– Logos

– Symbols

– Characters

– Packages

– Taglines

– Jingles



*"You're in good hands with Allstate.®"*

# Naming considerations

- Neologisms (new words)
  - **TYLENOL**<sup>®</sup>,  **pepsi**<sup>®</sup>, **Google**
- Current usage words & names
  - **People**, **ORACLE**, **twitter**, **Wendy's**
- Hybrids
  - **ThinkPad**<sup>®</sup>,  **Aquafresh**, **facebook**
- Acronyms
  - **IBM**, 

# Criteria for evaluating brand elements

- Memorable
- Meaningful
- Likable

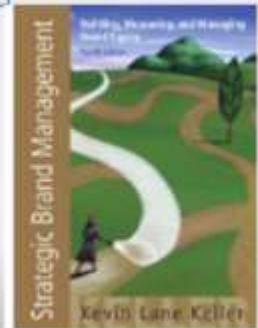
Marketer's offensive  
strategy: build brand equity

- Transferable
- Adaptable
- Protectable

Marketer's defensive  
strategy: leverage and  
maintain brand equity

Consider all of  
these from the  
perspective of  
the target  
market

Kevin Lane Keller  
Strategic Brand Management

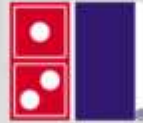




# Memorable

- Memorable
- Meaningful
- Likable
  
- Transferable
- Adaptable
- Protectable

Easily recognized  
Easily recalled



Memorability of the icon  
also increases when  
there is emotion  
connected with the brand

# Meaningful

- Memorable
- Meaningful
- Likable
- Transferable
- Adaptable
- Protectable

Descriptive  
Persuasive



**OLYMPIAN**  
GENERATOR SETS





# Likable

- Memorable
- Meaningful
- Likable

Fun and interesting  
Rich visual and/or verbal imagery  
Aesthetically pleasing

- Transferable
- Adaptable
- Protectable



# Transferable

- Memorable
- Meaningful
- Likable
  
- Transferable
- Adaptable
- Protectable

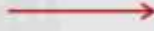


Within and across product categories  
Across geographies & cultures

# Adaptable

- Memorable
- Meaningful
- Likable
  
- Transferable
- Adaptable
- Protectable

From  To



Flexible  
Can evolve over time



# Protectable

- Memorable
- Meaningful
- Likable
  
- Transferable
- Adaptable
- Protectable

What's the story here?

- *Nylon*
- *Aspirin*
- *Lanolin*
- *Linoleum*
- *Dry ice*

- *Escalator*
- *Thermos*
- *Yo-Yo*
- *Raisin Bran*
- *Cellophane*

Enables legal and/or competitive protection

Longevity makes it harder to compete against





## Brand positioning rules

Be different

Be relevant

Be energizing

Be real



**Okay, what is value?**

$$\text{Value} = \frac{\text{Perceived benefits}}{\text{Perceived costs}}$$





# Build price/value into the launch

## Risk reducers

- Beta test results
- Guarantees
- Free trials, demonstrations
- Belief builders

## Training

- Ensure salespeople know the value proposition!





## Prepare for packaging issues

- Protecting the product
- Positioning
- “Trade-dress”
- Facilitating recycling
- Global issues
- Facilitating storage, use, and convenience





## Does the warranty add value?



- Is the quality high enough?
- Can competitors offer the same warranty? Will they?
- How long should the warranty be?
- Who is eligible to receive the warranty?



# Warranty implementation

- What will trigger the warranty?
- What will be provided (replacement, repair, cash)?
- How should it be communicated to customers?
- How will warranty claims be included in future product analyses?





# Where

## should you plan your launch?



Entry sequence

Priority markets

Sales channels

## Tools for motivating resellers

1. Increase the reseller's unit volume
2. Increase the reseller's unit margin
3. Reduce the reseller's cost of doing business



# Tools for motivating resellers

## 1. Increase the reseller's unit volume

- have an outstanding product
- use pull techniques
- product exclusivity or selectivity
- offer merchandising assistance





## Tools for motivating resellers

2. Increase the reseller's margin
  - raise the basic percentage margin
  - offer special discounts
  - offer allowances and special payments
  - offer to prepay allowances





## Tools for motivating resellers

3. Reduce the reseller's cost of doing business
  - provide training
  - provide dollars for training
  - improve the service policy
  - aid in repackaging
  - drop-ship delivery to reseller's customer





# When

## should you plan your launch?

- Impact on other products/  
services  
(inventory management and roll-overs)
- Competitive situation  
(before, concurrent, after)
- Significant trade shows / events



C. Merle Crawford



# Why

## is your product better?



- Really, *really* know the differential advantage
- Make it visible



# What your prospect wants to know

- What will your product (service) do for me?
- How will it do this?
- Why is it better than the competition?
- Who says so?
- What if I'm not satisfied?





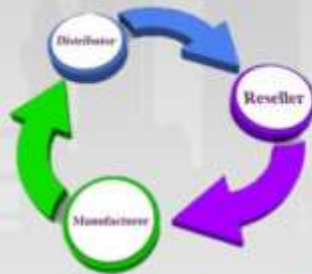
# Belief builders

- Testimonials
- Demonstrations
- Extended warranties
- Third-party testing
- Industry listing (e.g., U.L.)
- Video comparisons
- Cutaway of new product
- Published articles
- Animation of product operations
- Trials
- Word of mouth



# How

## will you market the product?



- Field sales plan
- Advertising strategy
- Product support



# Buying Decision Models

ROUTINE RESPONSE BEHAVIOR



LIMITED PROBLEM SOLVING



EXTENSIVE PROBLEM SOLVING





## Consider sales training needs

- what product does for customers
- how to sell it
- why the sales force should believe your claims



# Promotional issues



- public relations & marcom
- internal announcements
- social media
- training programs
- reseller support
- customer trial

PUBLIC RELATIONS



# POST-LAUNCH REVIEWS







## Early Measures to track

Pre-launch and early launch

- Compare actual against milestone activity chart
- Compare actual against event schedule
- % resellers stocking product
- # sales calls (per call reports)
- Awareness





## Later measures to track

### Post-launch

- unit sales
- returns
- discounts
- customer acceptance
- competitive response
- service calls
- shareholder value



# Control plan

Determine frequency of tracking

“Red alert” strategies or contingency plans





## Red alert strategies

Revise marketing strategy

- Reposition product
- Repackage product
- Bundle or unbundle product
- Change pricing
- Identify new markets
- Change sales channels
- Partner with another company



## **Red alert strategies (continued)**

Revise product

Pull product temporarily

Abandon product

Sell the product or rights to product



## Process review follow-up

After the product is launched, a final review is necessary

- How effective was the *process*?
- Would process improvements make the next launch better?
- Is the product effective in terms of the objectives established for it?
- Are there any “red flags”?
- Should corrective action be taken?



## Post-launch audit

What did we learn?

*“Good judgment comes from experience... and a lot of that comes from bad judgment.”*



## Key points

Manage both foundation and project-specific elements of NPD

Use market insight to define products and reduce friction

Create business cases as investment proposals

Integrate knowledge, project & risk management

Prepare launch plans early, implement carefully, and monitor post-launch





# Acknowledgements

Many, many people have contributed to this course over the years and I wish I could thank all of them. But there are a few I would specifically like to acknowledge and thank for their contributions.

Kevin Booth

Steven Haines

Bob Brentin

Brad Rogers

Dave Franchino



# Linda M. Gorchels



Just as we routinely upgrade computer systems, we must upgrade our own knowledge systems. Linda has helped over 10,000 people over a 25+ year period with these educational upgrades, merging anecdotal client experience with researched “best practices,” and sharing the resulting insights with managers and executives. After working in the office products, publishing and insurance industries, she joined UW-Madison’s Center for Professional and Executive Development, both as a corporate trainer and program director. Now, as a director emerita, she provides workshops for select clients.

An award-winning author of *The Product Manager’s Handbook*, she has also written *The Product Manager’s Field Guide*, *The Manager’s Guide to Distribution Channels*, *Business Model Renewal*, and *Product Management ShortRead Series*.