



3 | Product and Service Design

OM 201 Principle of operations management

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Lecture Outline

Topics

- Issues in product and service designs
- Design process
- Tools for service design

Learning Objectives

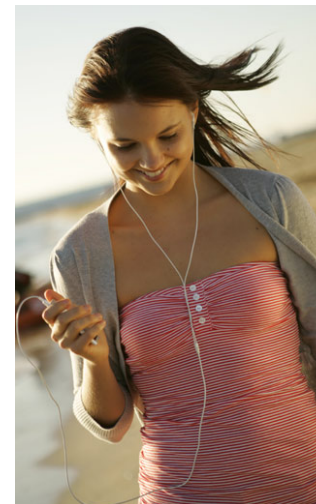
- Understand critical issues in product & service design

Reference

- Roberta Russell & Bernard W. Taylor, (2009), *Operations Management along the supply chain* (CHAPTERS 4 - 5) Ed 6, John Wiley & Son



To this...



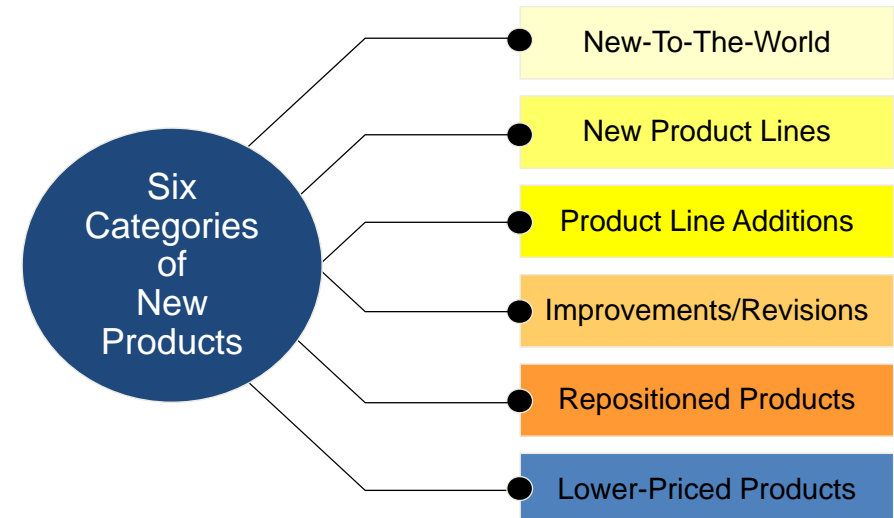
What drives these changes?

Bicycle for the learner...



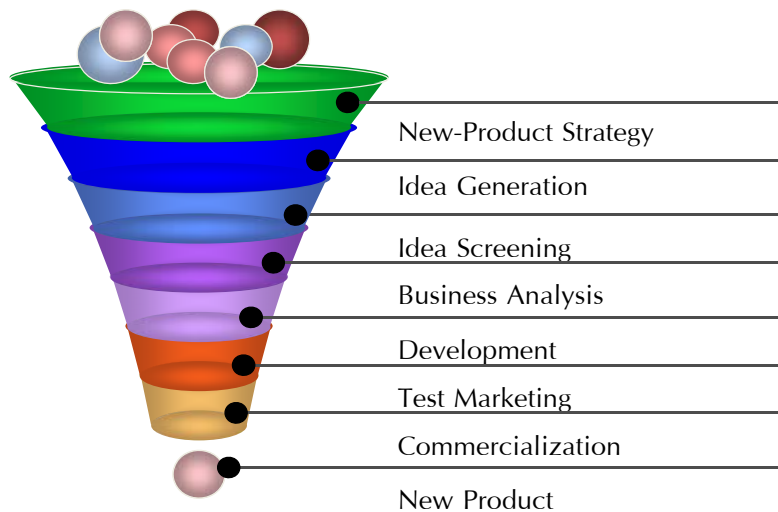
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Categories of New Products



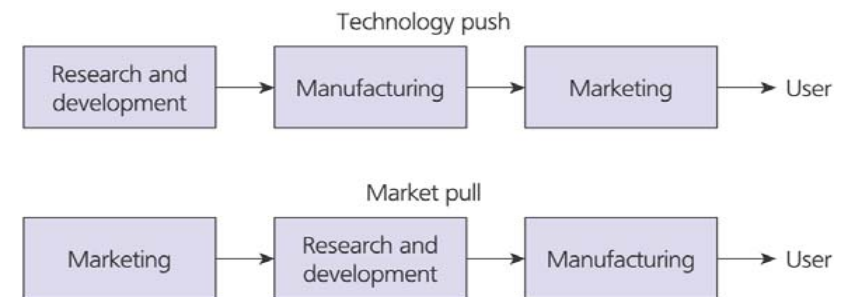
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New-Product Development Process



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Linear models of innovation

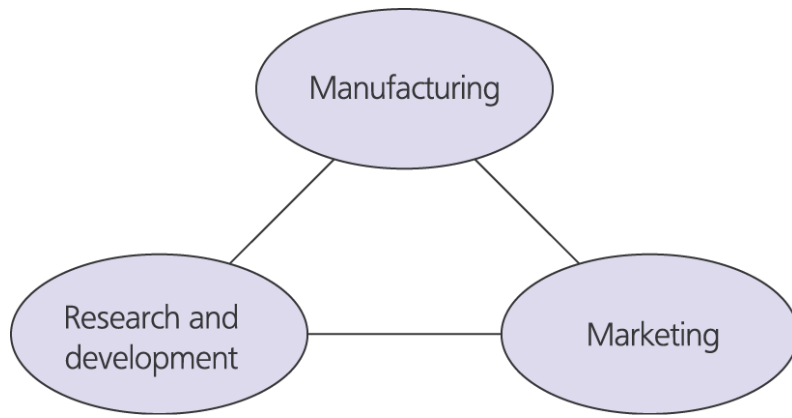


Source: Trott P., *Innovation Management and New Product Development*, 2008



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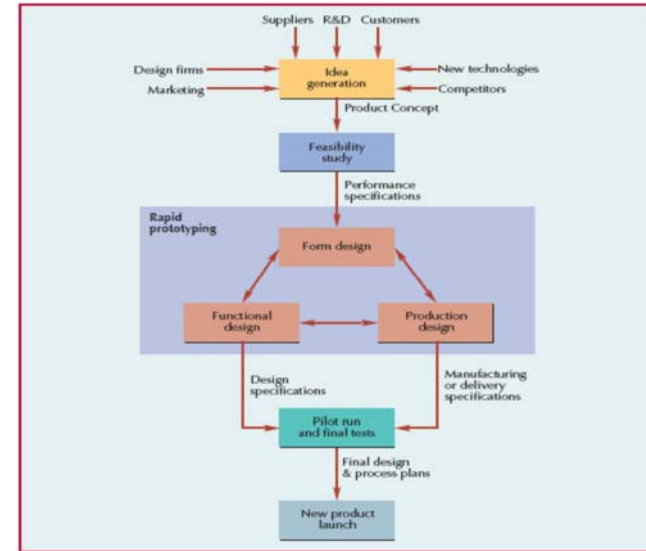
The simultaneous coupling model



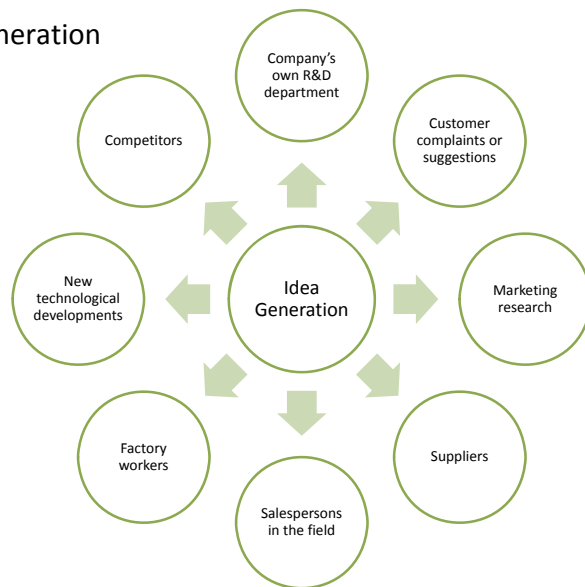
Source: Trott P., *Innovation Management and New Product Development*, 2008

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Design Process



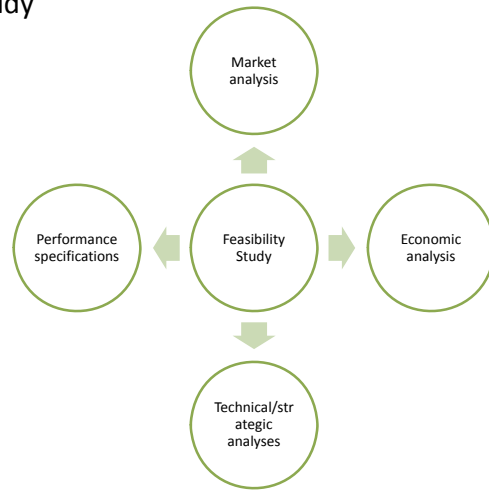
Idea Generation



Idea Generation (cont.)

- Perceptual Maps** • Visual comparison of customer perceptions
- Benchmarking** • Comparing product/process against best-in-class
- Reverse engineering** • Dismantling competitor's product to improve your own product

Feasibility Study



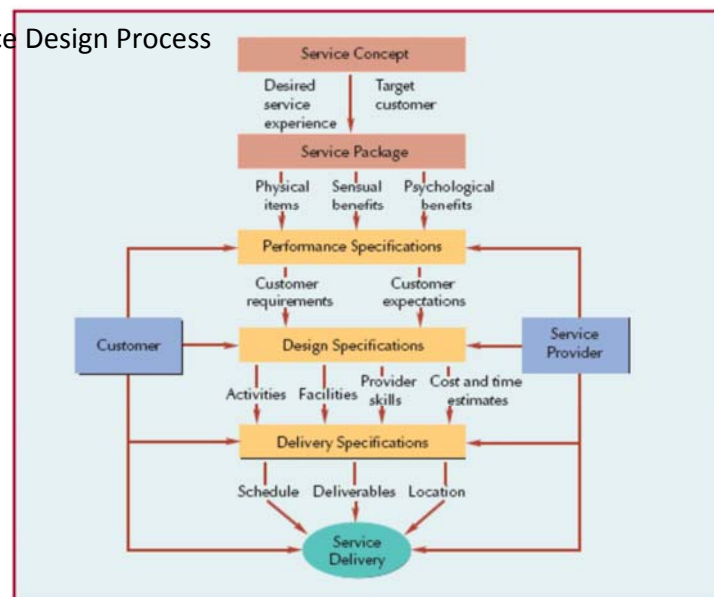
Rapid Prototyping

testing and revising a preliminary design model	Build a prototype
form design	functional design
production design	Test prototype
Revise design	Retest

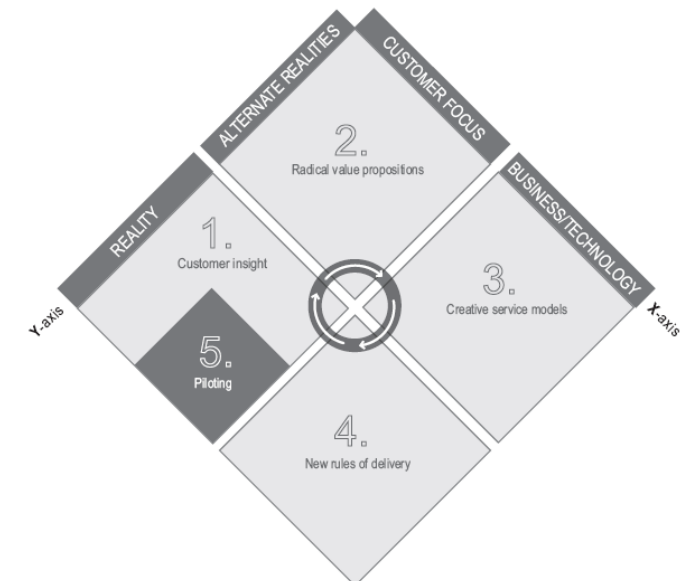


The surgeons described a new device for sinus surgery. One designer grabbed a marker, a film canister, and a clothespin and taped them together. "Do you mean like this?" he asked.

Service Design Process



5-Stage Framework in service design



Source: Jones & Samalions (2008), "From Small Ideas to Radical Service Innovation", Design Management Review, Vol. 19

The x-axis shows the continuum from "focus on customer desirability" to "focus on business viability and technical feasibility." The y-axis shows the continuum from "looking at existing realities for inspiration" to "letting go of the existing realities to envision an alternative world."

Tools for Service Design

Service blueprinting

- line of influence
- line of interaction
- line of visibility
- line of support

Front-office/Back-office activities

Servicescapes

- space and function
- ambient conditions
- signs, symbols, and artifacts

Quantitative techniques

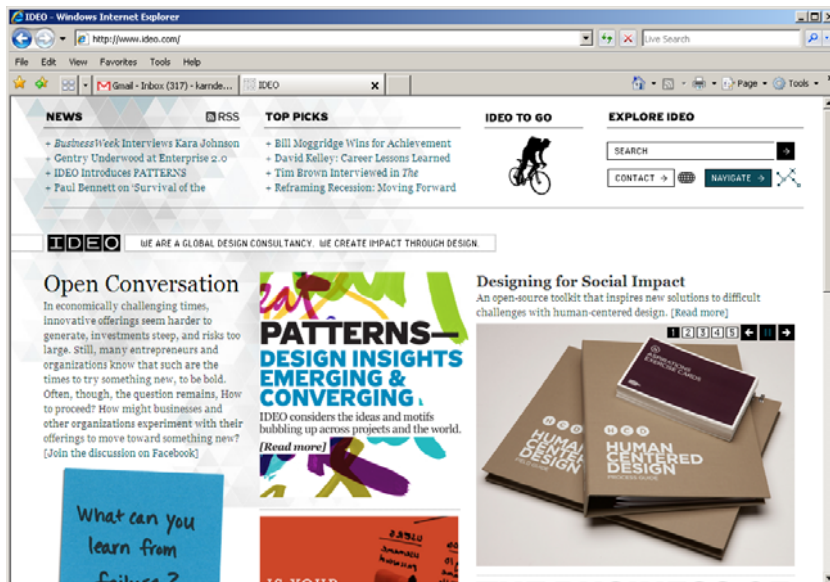
Service Design - Service Innovation

Re-engineering → Re-branding



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www.ideo.com



Case: IDEO Product Development



IDEO Product Development Teaching Objectives

- Introduce the notion of an innovation or development system
- Holistic view of development process
- A system consists of several interdependent elements that have to be carefully optimized to work together.
- Expose students to experimentation and prototyping the 'IDEO way' as an integral activity to product development and organizational/ system change

Aim for the followings:

1. How would you characterize IDEO's process?
 - Organization
 - Culture
 - Management
2. Decision point: should IDEO
 - a) Accept the Visor project as is (on a dramatically reduced schedule)?
 - b) Should they try to persuade Handspring's management to change its aggressive launch schedule?
 - c) Or should they simply decline the project?