Managing the Innovation Process

Cross-Functionality
Overview

• Take-Away
• Required Readings
• Supplemental Readings
• Caveats
Take-Away

• Innovation can be fostered by heavyweights
• Innovation can be hindered by thought worlds
• Innovation relies on team functional diversity
• Innovation requires organizational adaptation
(Clark & Wheelwright, 1992)

- “Organizing and leading "heavyweight" development teams”

- Types of Development Project Teams (functional, lightweight, heavyweight, tiger/autonomous)

- Heavy-Weight Structures Are Most Effective (example – Motorola’s Bandit line of pagers)

- Change Required in Fundamental Behavior (example – Fred / Team A vs Jim / Team B)
(Dougherty, 1992)

- “Interpretive barriers to successful product innovation in large firms”

- **Linking Technology/Market With Product Design**
  (contribute to innovation and new product success)

- **Departmental Thought Worlds**
  (technical, field, manufacturing, planning)

- **Organizational Routines**
  (interdepartmental relations, market definition, product standards)
(Ancona & Caldwell, 1992)

• “Demography and design: Predictors of new product team performance”

• High-Technology Industry
  (increasing reliance on new product teams – e.g., photo)

• Designing Cross-Functional Teams
  (should there be more or less diversity – of which types?)

• Functional Diversity Related to External Communication
  (external communication related to manager performance)
(Eisenhardt & Tabrizi, 1995)

- “Accelerating adaptive processes: Product innovation in the global computer industry”

- **Global Computer Industry**
  (product innovation facilitates adaptation)

- **Inertial Organizations vs Malleable Organizations**
  (slow shifts vs punctuated equilibrium and fast change)

- **Compression Model vs Experiential Model**
  (squeezing well-known vs improvising uncertain process)
(Griffin & Hauser, 1992)

• “Patterns of communication among marketing, engineering, and manufacturing”

• **Automobile Industry**
  (parallel component projects, e.g., headlight and taillight)

• **Marketing, Engineering, Manufacturing**
  (new product development in two different teams)

• **Phase-Review vs. Quality Function Deployment (QFD)**
  (traditional vs. Japanese development process)
Caveats

• What if you don’t have access to heavyweights?

• When do thought worlds help knowledge acquisition?

• Is too much functional diversity harmful?

• How does time pressure affect functional integration?