

# **OPEN INNOVATION: Broadening the scope**

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## **Corporate growth strategy**

*Philip's objectives*

Sales in 2005 30 billion Euro

5-6% CAGR

2-3% average organic growth in the next 5 years  $\approx$  3.1 – 4.8 billion Euro

10-15% operating profit

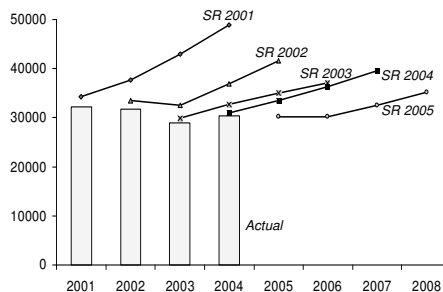
## How to fight the commodity trap: Increased innovation but no growth

### Philips

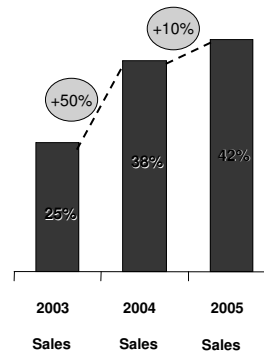
- Progress in new product creation but growth has been failing:
- New products for stagnating market do not lead to growth (= speeding up the PLC)
- Needed: *business creation* rather than product creation or
  - ◆ Create your own market space

## Although sales from new products increases Philips does not grow

Philips Group sales  
amounts in EUR million

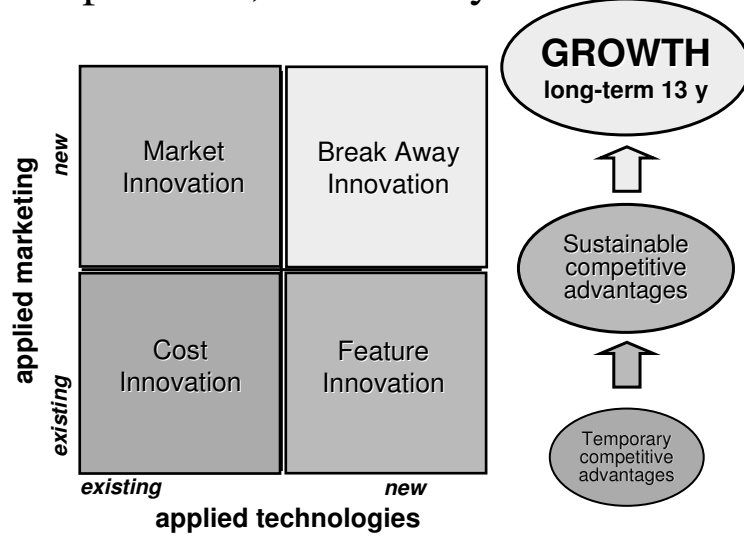


New product revenues



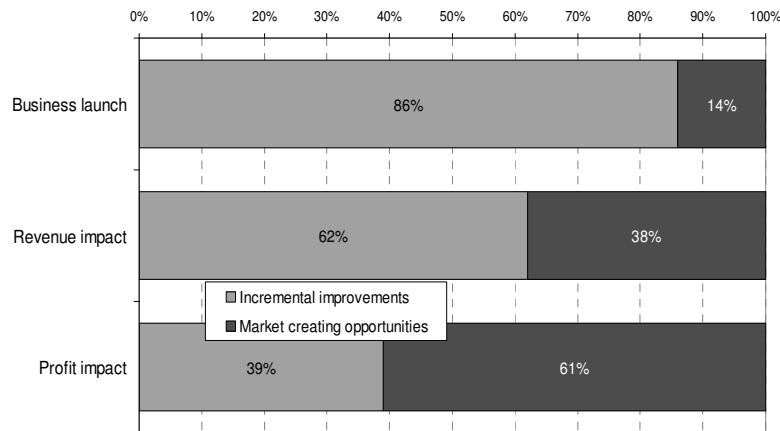
Source: SVB materials since 2001, CTO office

## Real growth comes from new markets AND new products; break away innovation



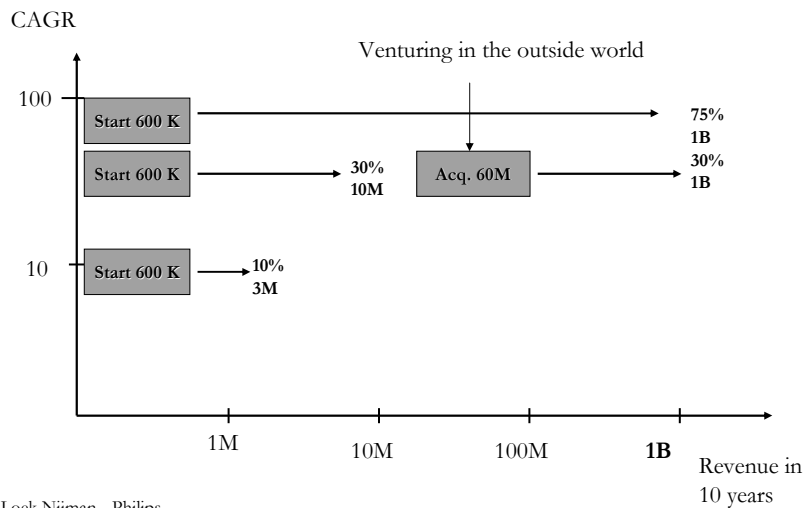
Source: Kim and Mauborgne – Blue ocean strategy

## Profit & growth consequences new launches Based on business launches of 108 companies



Source: Kim and Mauborgne – Blue ocean strategy

**Breakaway innovation takes a lot of time  
for reaching large business sizes**  
*Immediate growth requires acquisition of early growth ventures*

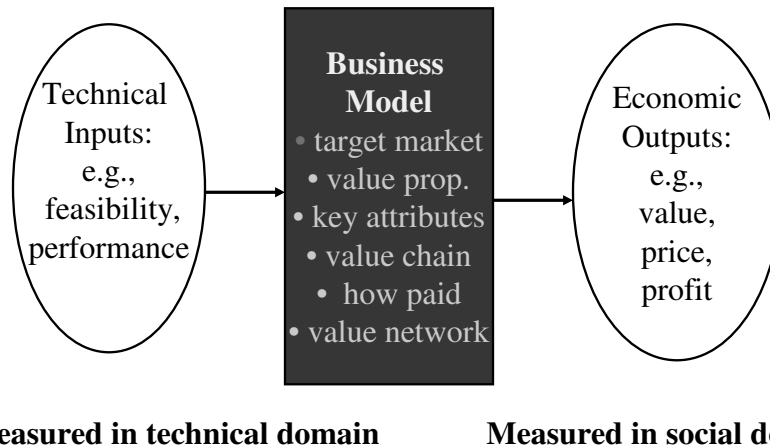


**Technology has no value in itself  
Value is determined by its BM**



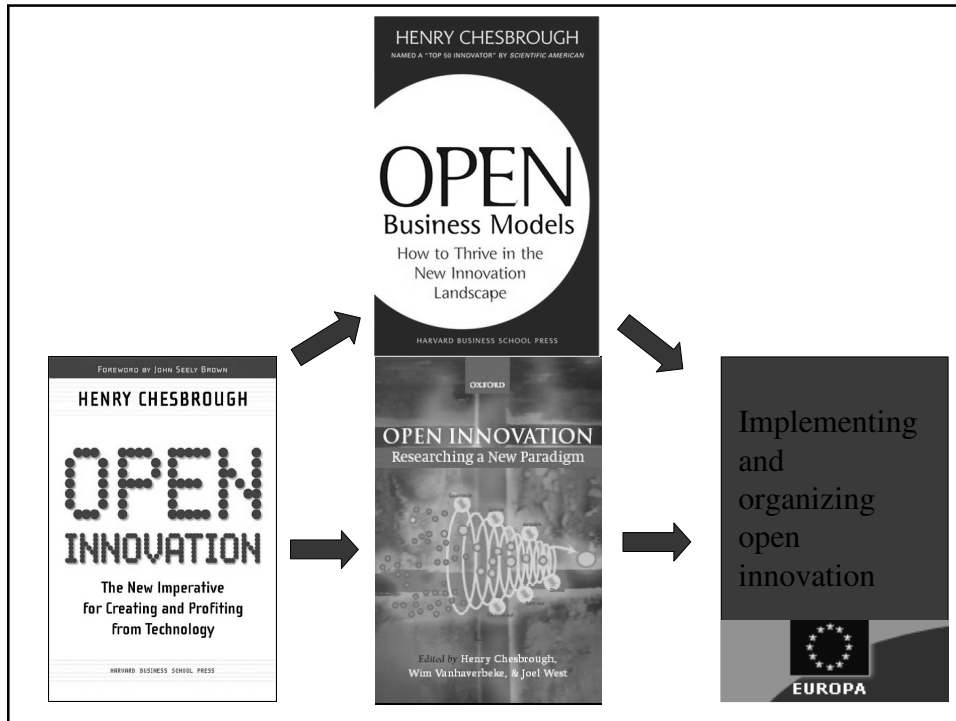
- \* **DYNEEMA: DSMs strongest fiber** (20 times stronger than steel)
  - Customers are not interested in technical characteristics of the product
  - Translate **product characteristics** into sales arguments  
= show value of the product in the customer's value chain  
(e.g. Dyneema in fishing nets: stronger, smaller fibres, less resistance, less fuel costs, OR higher speed, higher fishing productivity)
  - Make sure you can convince the whole value system  
the final customer (Dyneema in airbags)

## Why business models are hard to manage: Mapping across domains



## The Business Model

- Identifies a market segment
  - ◆ Users to whom the technology is useful and the purpose for which it will be used
- Articulates the value of the proposed offering
  - ◆ Value created for users by the offering based on the technology
- Focuses on the key attributes of the offering
- Defines the value chain to create and deliver that offering (+ complementary assets)
- Creates a way for getting paid
  - ◆ Cost structure and target margins
- Establishes the value network / eco-system needed to sustain the model

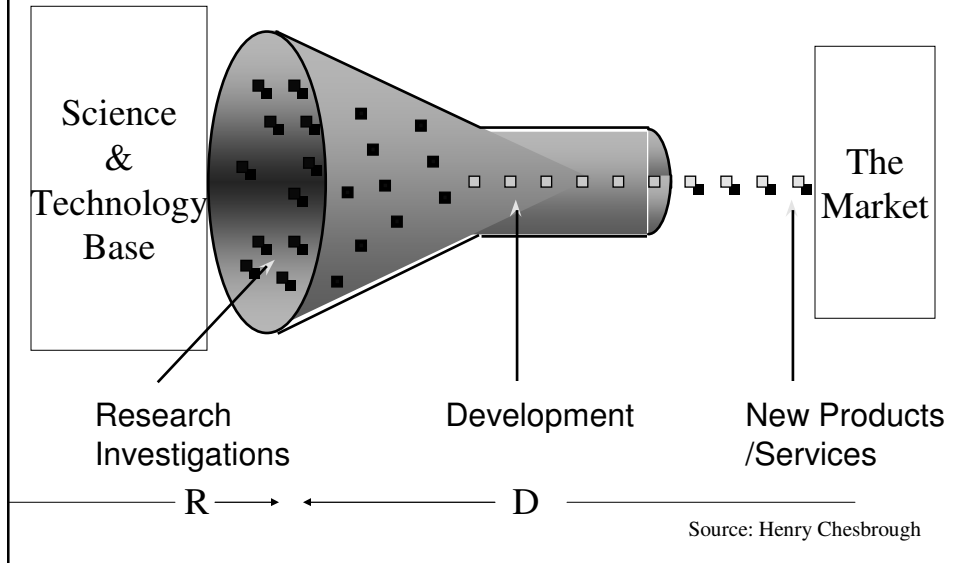


## What is Open Innovation?

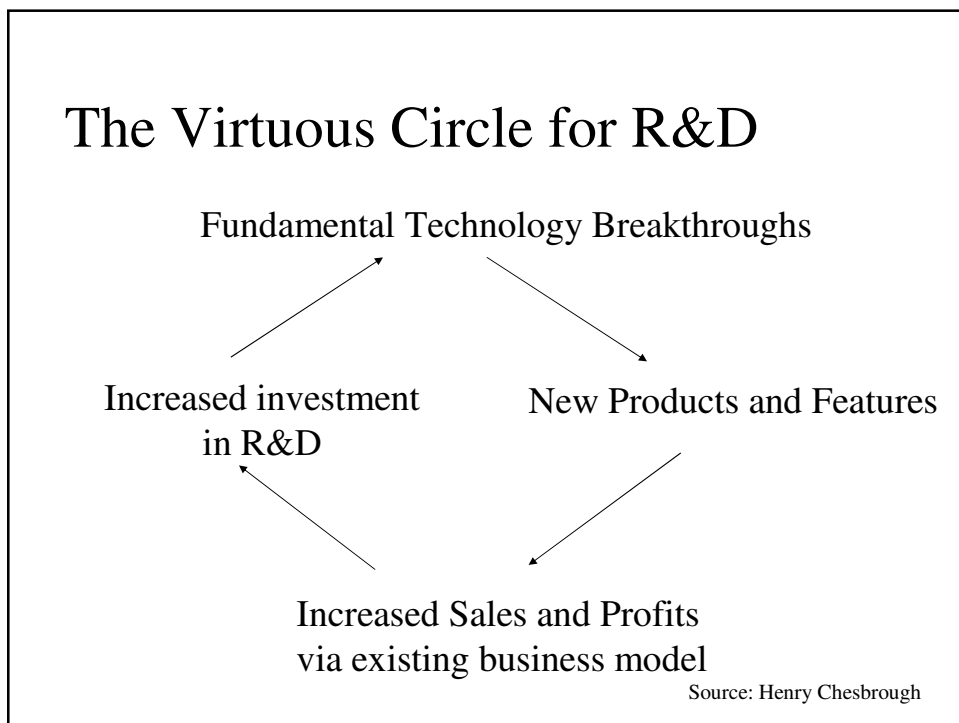
“Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.”

Chesbrough, Vanhaverbeke, West  
*Open Innovation: Researching a New Paradigm* (Oxford, 2006)

## A Closed Innovation System



## The Virtuous Circle for R&D



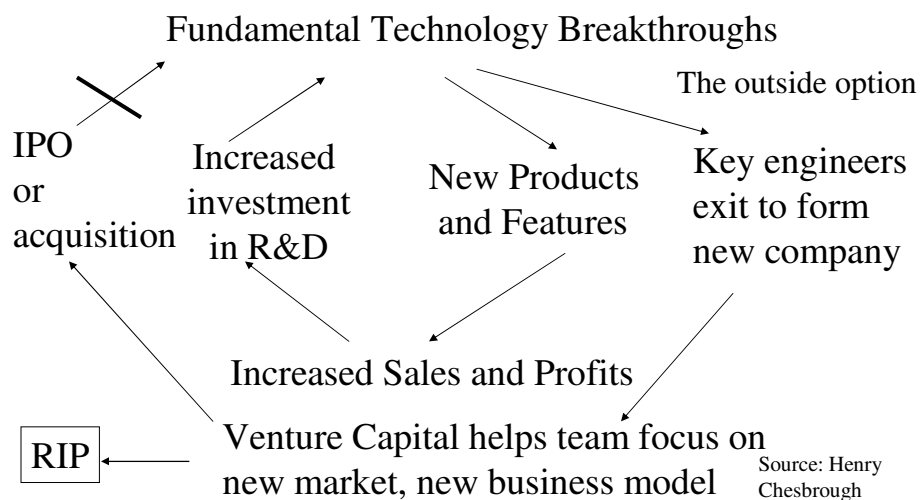
## What changed?

### New Division of Innovation Labor

- Increasingly mobile trained workers
- More capable universities
- Knowledge distributed more widely throughout the world
- Diminished US hegemony in many leading technology fields
- Erosion of oligopoly market positions
- Deregulation (EU-liberalization)
- Enormous increase in Venture Capital

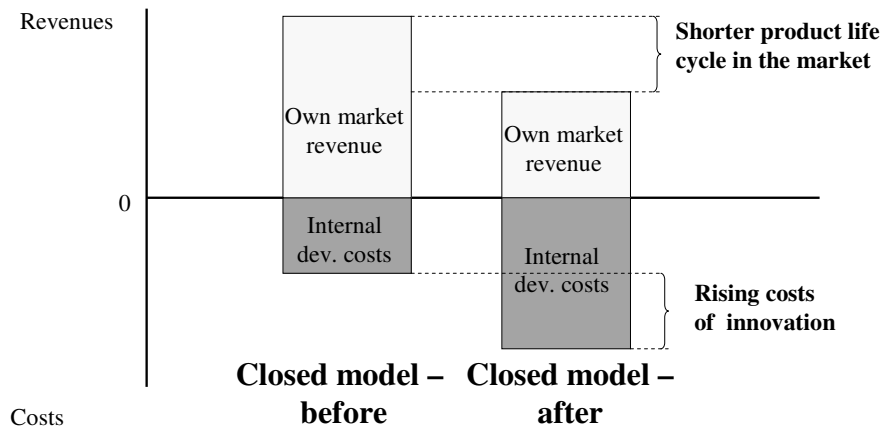
Source: Henry Chesbrough

## The Virtuous Circle Broken



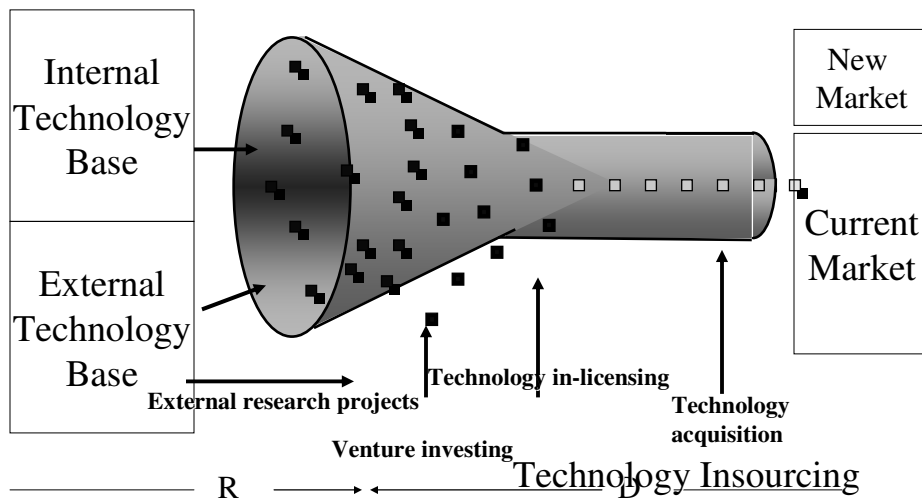


## The economic pressures on innovation

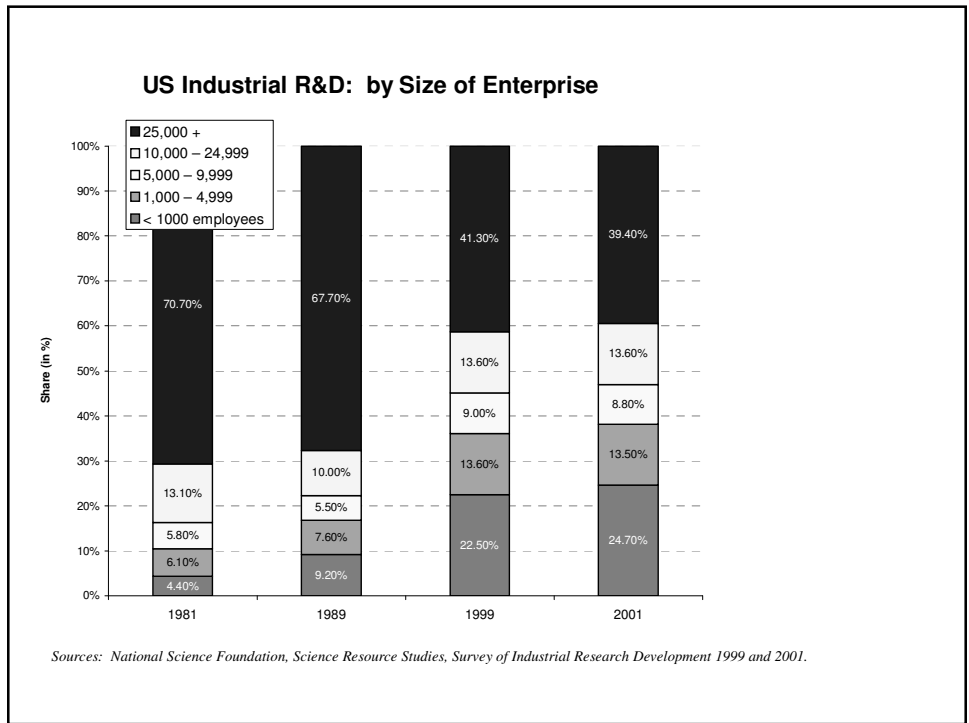
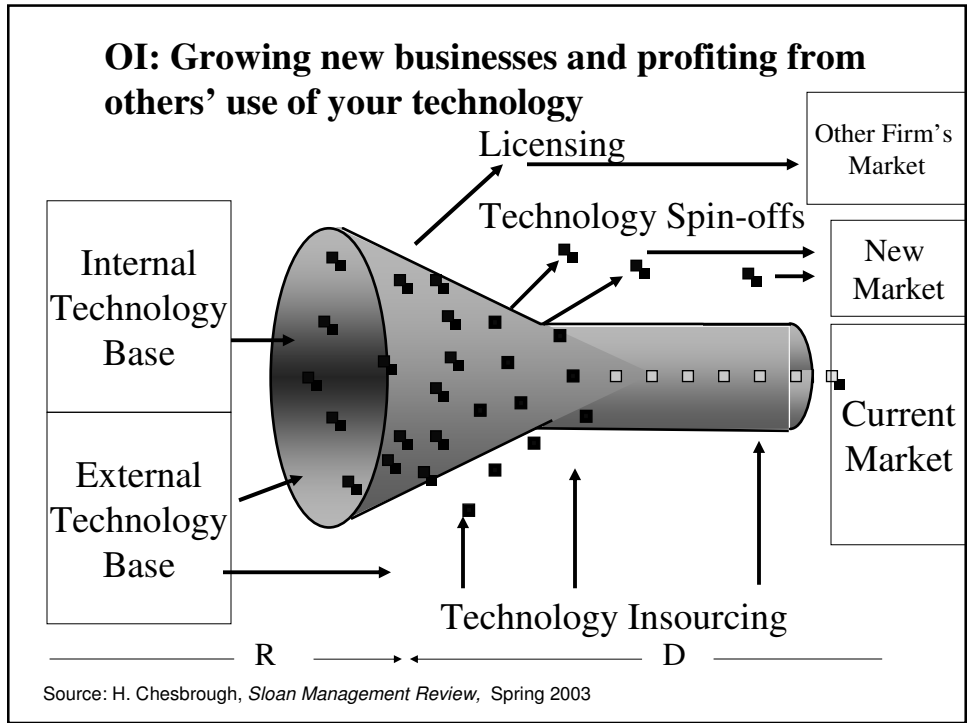


Chesbrough, H. (2006)

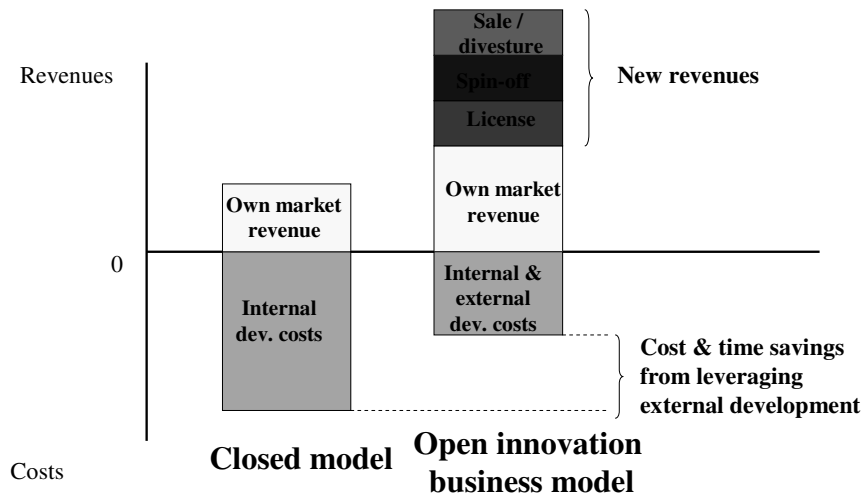
## OI: Filling the gaps with external technology



Source: H. Chesbrough, *Sloan Management Review*, Spring 2003



## The new business model of open innovation



Chesbrough, H. (2006)

## Opening the scope of open innovation

A. external venturing (NBD) – application areas for OI are much broader

- ◆ OSS and other user communities (Von Hippel)
- ◆ standard setting lead-users (B2B)
- ◆ systemic innovations (role of system orchestrators)
- ◆ value networks (Open commercialization)
- ◆ eco-systems of firms
- ◆ technological & institutional environment
- ◆ etc...

## Opening the scope of open innovation

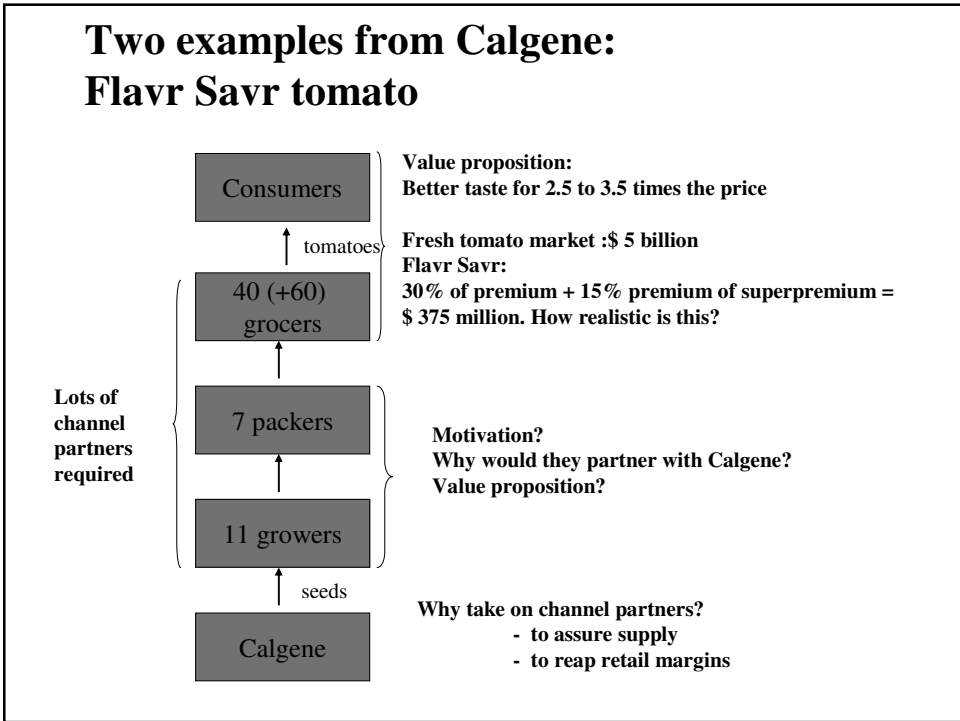
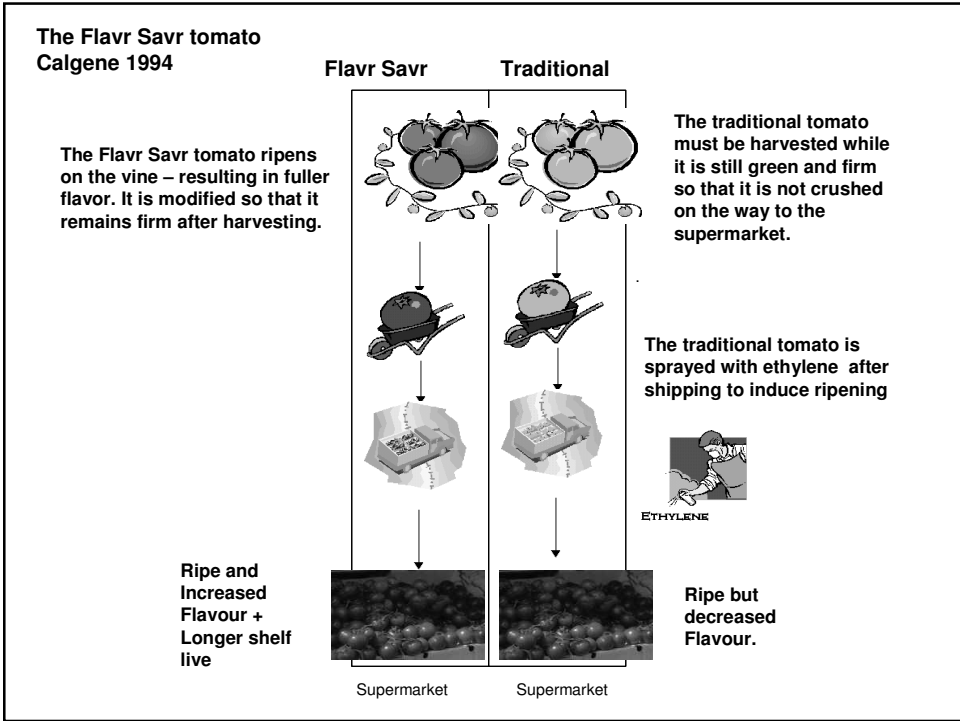
### C. Focus on large, technology user firms

- ◆ OI is about transactions
  - user + supplier → the high-tech start-up story?
- ◆ How innovative start-ups can approach effectively large user firms
  - ◆ Technology push idea – every high tech company with a promising technology should have access to large companies
  - ◆ Better: Scouting, cooperation in precompetitive R&D networks, fairs, VCFs, etc...
- ◆ What is the start-up or SME's business model?  
Manageable value networks?

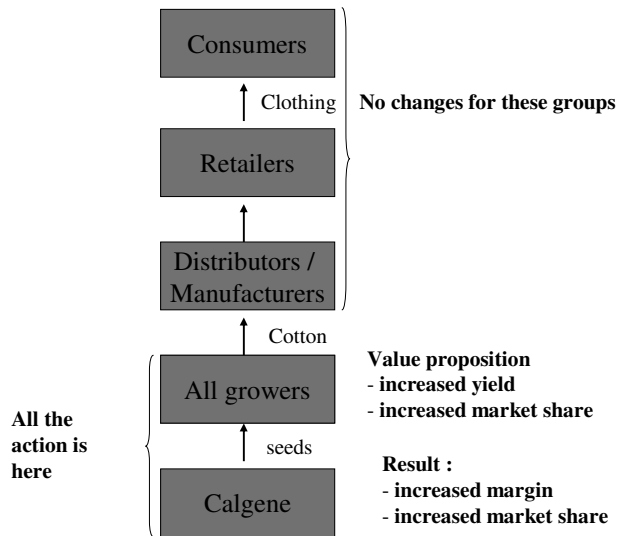
## Opening the scope of open innovation

### D. From firm to network perspective:

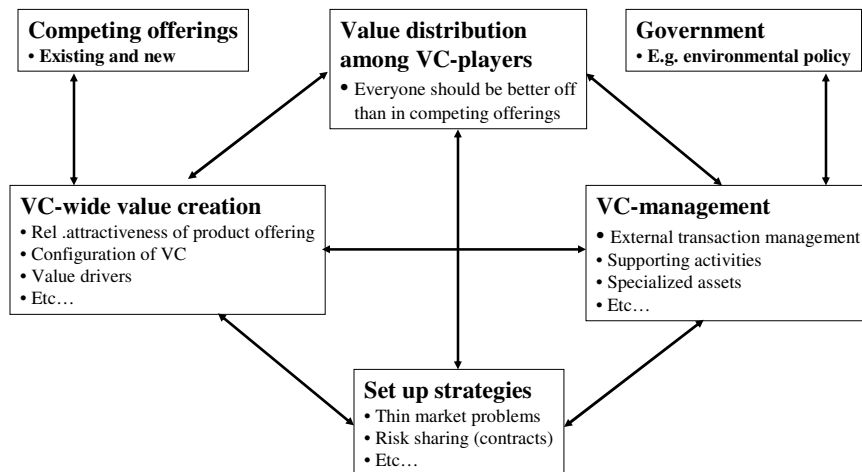
- ◆ Value added to be created by a value network: group vs. group competition (changing business architecture)
- ◆ "Revisit the unit and mode of analysis: from dyadic relations to *industry-wide architectures*"  
(Jacobides et al. 2006, RP, p. xx).



## Two examples from Calgene: Bromotol Cottonseed (herbicide resistant)



## Value constellations from a management point of view



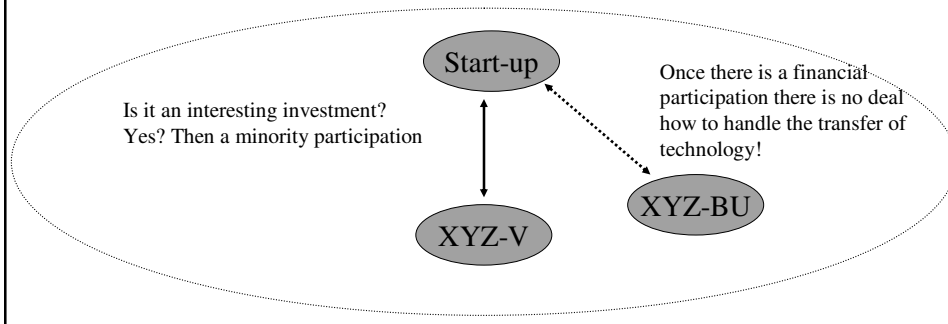
## Opening the scope of open innovation

### E. How to source external technology?

- ◆ BM but not organization structure, culture, dynamics of corporate strategy, routines, internal technology transfers
  - ◆ *External Venturing @ DSM*
  - ◆ *How to manage OI?*

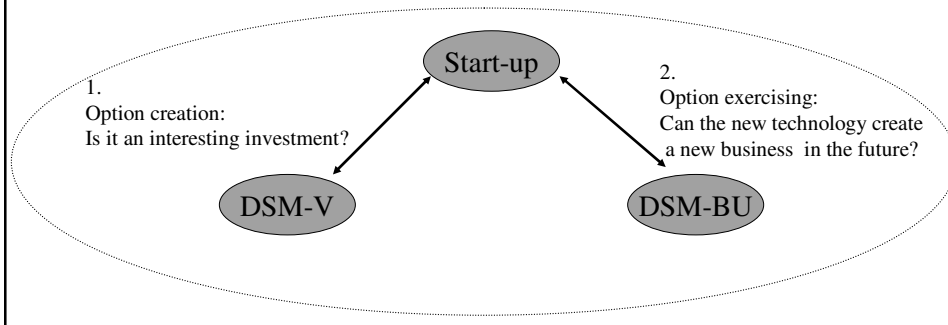
## How to organize for OI? External Venturing at XYZ

- **Pitfall :** It is not acceptable to use the financial participation as a power tool to enforce cooperation on terms of the investing company



## How to organize for OI? External Venturing at DSM

- **Rationale:**
  - Strategic return, not a financial return
  - One of the BU should benefit from it
- Therefore: Negotiation is a *three way negotiation*  
There are *two deals* packaged into *one overall deal*



## How to organize for OI? External Venturing at DSM

- Result: negotiate to get a maximal win-win situation
  - Both firms can offer each other a lot
- The large firm:
  - business and market intelligence
  - application technology
  - marketing know-how
  - large scale manufacturing
  - credibility among large potential clients
  - patent writing skills
  - ...
- Start-up:
  - new technology, business model, etc..
  - entrepreneurial risk taking and decision making
  - ...



## How to organize for OI?

### External Venturing at DSM

#### **Six reasons not to start a power play with external ventures:**

1. *Bad reputation:* when the large, investing firm is looking for interesting start-ups as a recurrent practice
2. *Pushing too hard for a particular application* (based on the business model and proposed application of the large, investing firm)
  - ◆ Market potential of start-up technologies is still very uncertain because of the early stage technology. *Keep options open* for unintended but interesting applications.
  - ◆ limits business potential of start-up (and thereby shareholders value)

....

## How to organize for OI?

### External Venturing at DSM

#### **Six reasons not to start a power play with external ventures:**

3. *Might kill the spirit of good cooperation.*
4. *Kill entrepreneurial spirit by creating another "corporate puppet on a string"*
5. *Could limit exit possibilities and exit value* for other shareholders (by lock-in to/dependency on corporate)
6. *Could result in litigation* if perceived as abuse of economic power

# Managing open innovation



Source: M.A. Hastbacka, 2004; Technology Management Journal.

## OI Strategies for Achieving Advantage in a Crowding Market for External Technologies

### Problem

- Companies increasingly pay higher prices for proprietary external technologies *and* face a growing number of competitors with equal access to non-proprietary ones
- Technology suppliers know their price
- Simple tactics to acquire relevant technology will only worsen the situation

### OI management implies:

- i. Integrate Open Innovation into Business Strategy
- ii. Deepen Connection-Making Capabilities
- iii. Motivate Potential Partners to Make Connections
- iv. Align Business Assets to Capture Value

Source: R&T Executive Council

## 1. Integrate Open Innovation into Business Strategy

- **Challenge:**
  - ◆ To protect returns through differentiation, companies must integrate open innovation activities with strategic planning
  - ◆ Integrate open innovation into business strategy to target external opportunities that uniquely fit a firm's capabilities!
- **Example: R&D-Marketing Misalignment**
  - ◆ Technical possibility not translatable into customer benefits
  - ◆ Product specifications do not describe degree of competitive differentiation required
  - ◆ Consequences for internal innovation:
    - ◆ Development priorities not linked to opportunities for competitive differentiation
  - ◆ Consequences for external innovation:
    - ◆ Technology sourcing strategy not targeted at most advantaged possibilities

Source: R&T Executive Council

## 2. Deepen Connection-Making Capabilities

- **Challenge:**
  - ◆ By allowing connections to happen simply by chance, organizations risk missing much of the value they can provide.
  - ◆ However, approaches to *systematize* connection-making are typically *costly and resource intensive*
- **Connection-Focused Performance Management**
  - ◆ Expectation of network making skills embedded in all technical employees' performance criteria.
  - ◆ *Manager assessments* are realigned to ensure accountability for behavior change.
- **Connection-Making Leadership Rotations**
  - ◆ Talented Connection-Makers lead dedicated cross-industry connection teams to surface technology solutions from external sources during initial stages of "big bet" projects.

Source: R&T Executive Council

### 3. Motivate Potential Partners to Make Connections

- **Challenge:**
  - ◆ How to become a “Partner of Choice” - corporate reputation is important
  - ◆ Market power is not sufficient to attract external technologies, on the contrary, size can sometimes deter potential partners
- benefits
  - ◆ Decreased Rate of Partner Refusal
  - ◆ Privileged Access to Technology of Core Partners
  - ◆ Potential Partners Motivated to Look for Connections
    - ◆ lower costs to find creative connections
- but misperceptions about large companies
  - ◆ “They Are Builders Not Buyers”
  - ◆ “They Are Too Big to Work With”
  - ◆ “They Are an Industry Outsider”

Source: R&T Executive Council

### 4. Align Business Assets to Capture Value

- **Challenge:**
  - ◆ Sony :
    - ◆ owned both the hardware and content assets to lead the digital portable music market, but failed to connect these technology and business capabilities
    - ◆ In contrast, Apple’s integration of its iPod portable device with content provided on the iTunes Music Store, enabled the company to dominate the portable audio market
- Capability building
  - ◆ Recognizing that difficult-to-replicate business assets are key to establishing an enduring competitive position in new markets,
  - ◆ seek new opportunities in high-growth areas with technical relevance to a firm's core capabilities...
  - ◆ look for capability gaps
  - ◆ build a strategy to tap into external sources

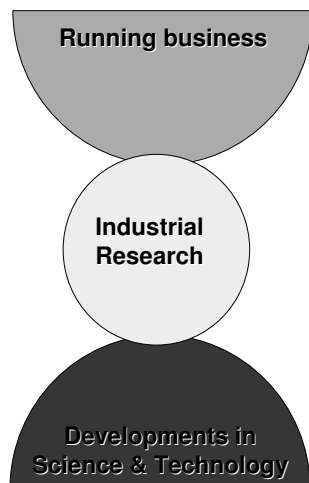
Source: R&T Executive Council

## Opening the scope of open innovation

### G. Inter-organizational knowledge transactions

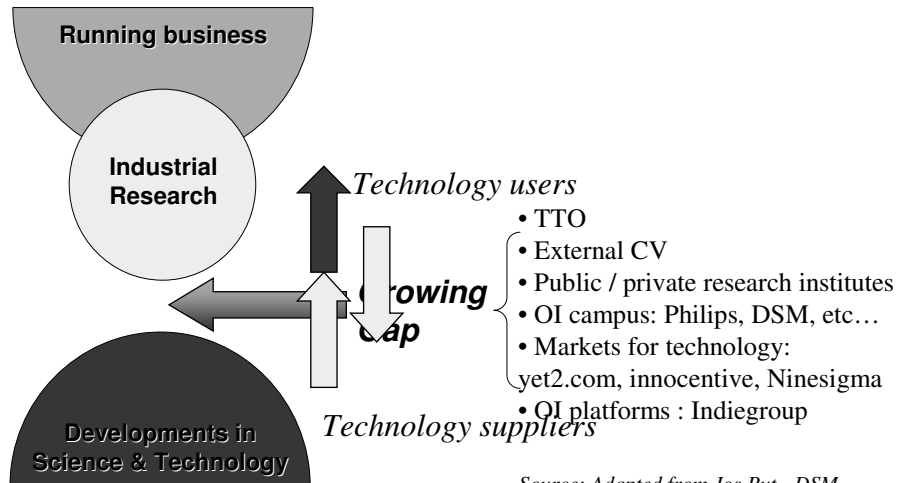
- ◆ The Arrow (1971) Information paradox + transaction costs are high
- ◆ Traditional: patent protection
- ◆ Now : + How firms create markets for technology? (Arora; brokering firms)
  - ◆ Innocentive
  - ◆ Ninesigma, ...
  - ◆ Indiegroup

## Shifting roles and the emergence of (intermediate) technology markets



Source: Adapted from Jos Put - DSM

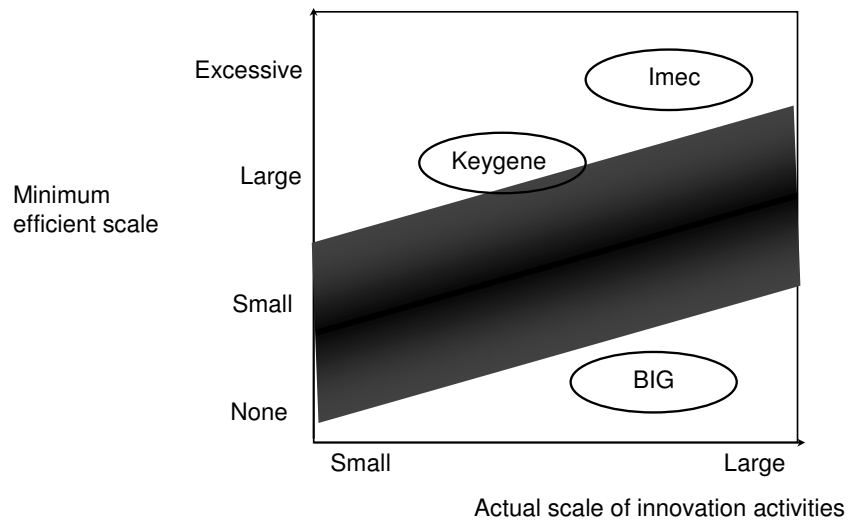
## Shifting roles and the emergence of (intermediate) technology markets



## Silent drivers of open innovation

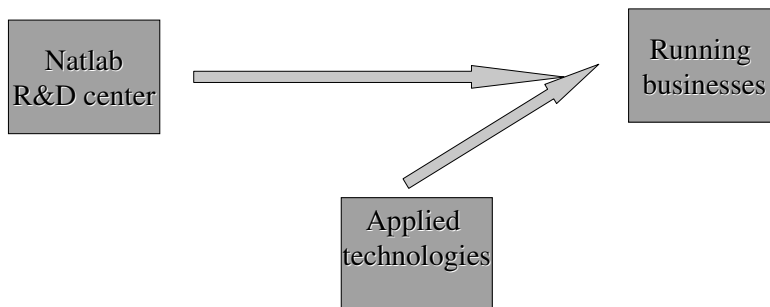
1. Changing MES of R&D activities
2. Restructuring
3. Globalization
4. Technology life cycles – see Chesbrough, 2006

## MES in R&D as a silent driver of OI



## Restructuring companies as a silent driver of OI

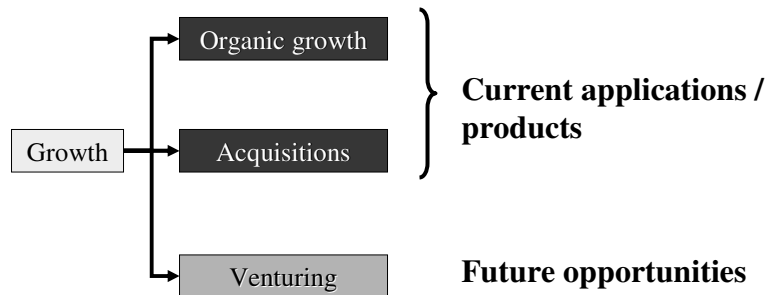
### Philips







## Corporate growth strategy



## Ambidexterity: Organizational DNA of CoreCo and NewCo is different

	CoreCo ●	NewCo ▲
Staff	Operational experts	Creators, inspirers
Structure	Hierarchy	Flat
System	Accountability, fixed compensation	Learning, variable compensation
Culture	Risk averseness	Risk tolerance

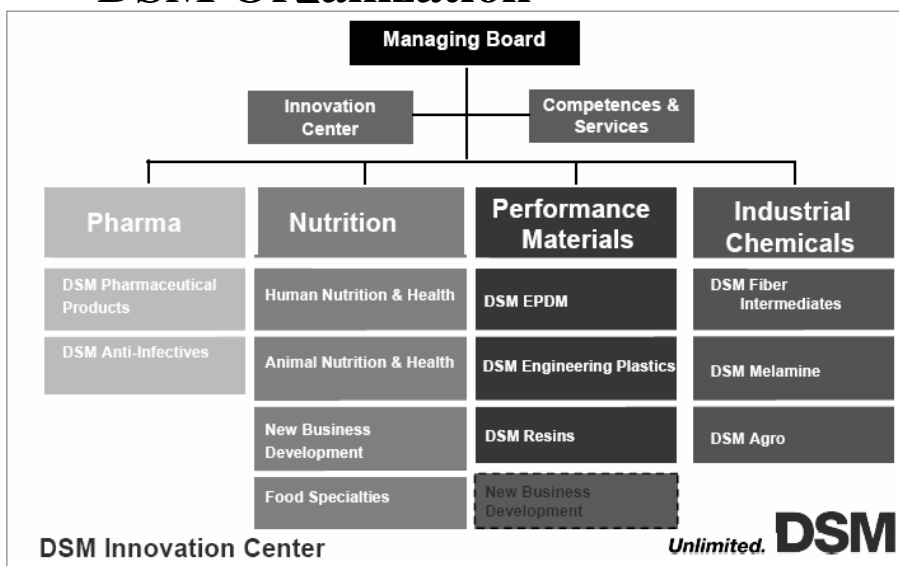
*Source: V. Govindarajan and C. Timble (2005) 10 Rules for Strategic Innovators*

## CoreCo and NewCo are different

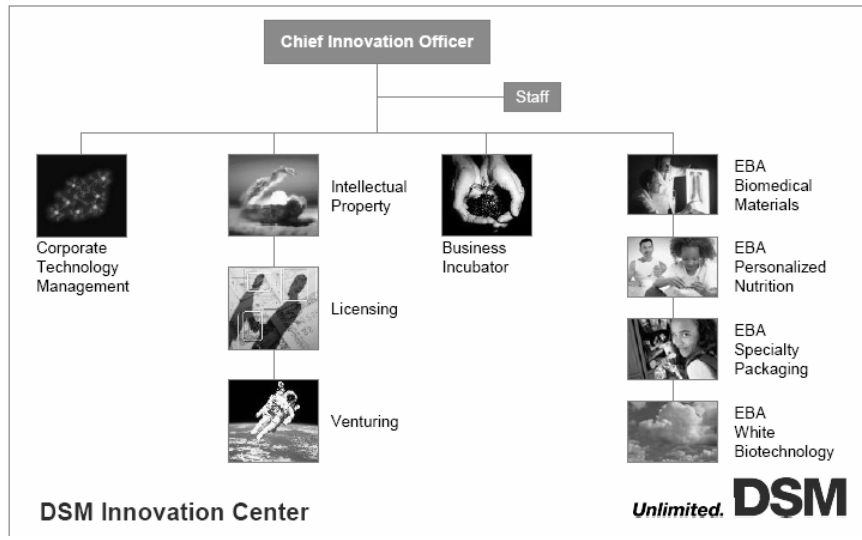
	CoreCo ●	NewCo ▲
BM	Refine the old BM	Forget the old BM
Assets	Everyday improvement utilization of all assets	Borrow, but only the <i>strategic</i> assets
Mistakes	Minimize all mistakes by using 6Σ & TQM	Learn, by doing mistakes early and cheap

10 Rules for Strategic Innovators by V. Govindarajan and C. Timble

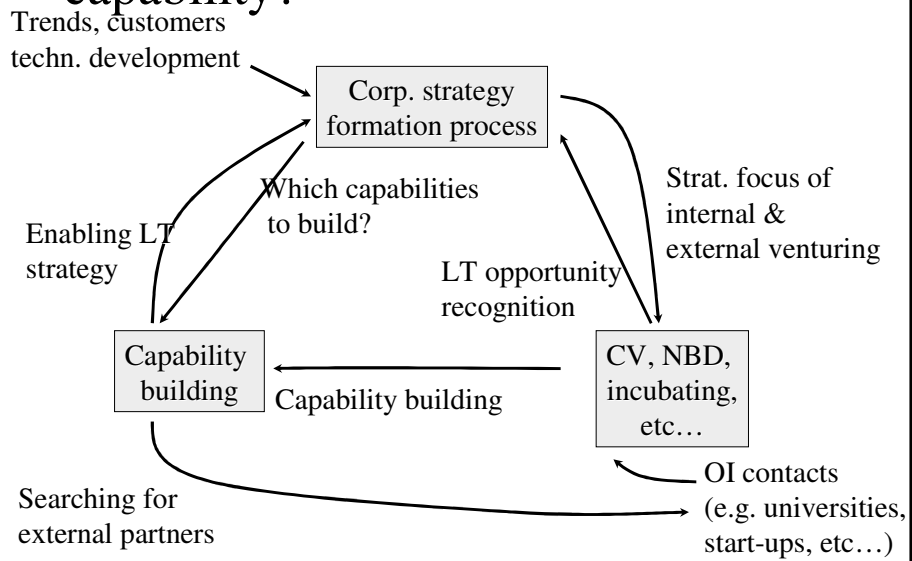
## Organizing for ambidexterity: DSM Organization



# DSM Innovation Center



## How to understand OI as a dynamic capability?



# Practicing Open Innovation

## ■ Websites

- ◆ <http://www.openinnovation.net>
- ◆ <http://www.openinnovation.eu>
- ◆ <http://www.openinnovatie.nl>

- ◆ On-line open innovation scan

## ■ Seminars

- ◆ Customized management courses about OI
- ◆ Cases and management tool development

## ■ European Center for OI

## ■ Wintercourse CE and OI at High Tech Campus (8-14 November 2007)

The screenshot shows the Open Innovation website homepage. At the top, there is a navigation bar with icons for search, favorites, and other functions. Below this is a large banner image showing a modern building at night and a glowing lightbulb, with the text 'OPEN INNOVATION.EU' overlaid. The main content area is divided into sections: 'Welcome to OpenInnovation.eu', 'Recent updates', and a sidebar with a book advertisement. The 'Recent updates' section lists three items: 'Open Innovation/Corporate Venturing event', 'Course Corporate Entrepreneurship and Open Innovation', and 'Managing technologies in Research Organization: Framework for Research Surplus Portfolio'. The sidebar contains a list of navigation links and a book advertisement for 'Open Innovation' by Henry Chesbrough, available on Amazon.co.uk.

Search Favorites

Welcome to OpenInnovation.eu

Recent updates

**Open Innovation/Corporate Venturing event**  
28th March 2007, London @Tanaka Business School, Imperial College, London  
Visit Events for more information.

**Course Corporate Entrepreneurship and Open Innovation**  
From March 29-30 and April 2-3-4, 2007, the second European course on Corporate Entrepreneurship and Open Innovation will take place at Conference Hotel Willibrordshaeghe in Deurne in the Netherlands. Go to Events to view the info.

**Managing technologies in Research Organization: Framework for Research Surplus Portfolio**  
In the article by Sari Viskari and Marko Torkelli of Lappeenranta University of Technology, titled "Managing technologies in Research Organization: Framework for Research Surplus Portfolio", the concept of Research Surplus Portfolio (RSP) is constructed based on literature with regards to intellectual capital management and portfolio management.  
[LUTIEMResearchReport176.pdf](#)

**A Select Set of Companies Sustain Superior Financial Performance While Spending Less on R&D Than Their Competitors**  
A select group of the world's 1,000 largest corporate R&D spenders perform significantly better than their competitors over a sustained period while spending less on R&D than their industry rivals, according to management consulting firm Booz Allen Hamilton's second annual global innovation study.  
[GlobalInnovation10002006.pdf](#)

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