

Open Innovation

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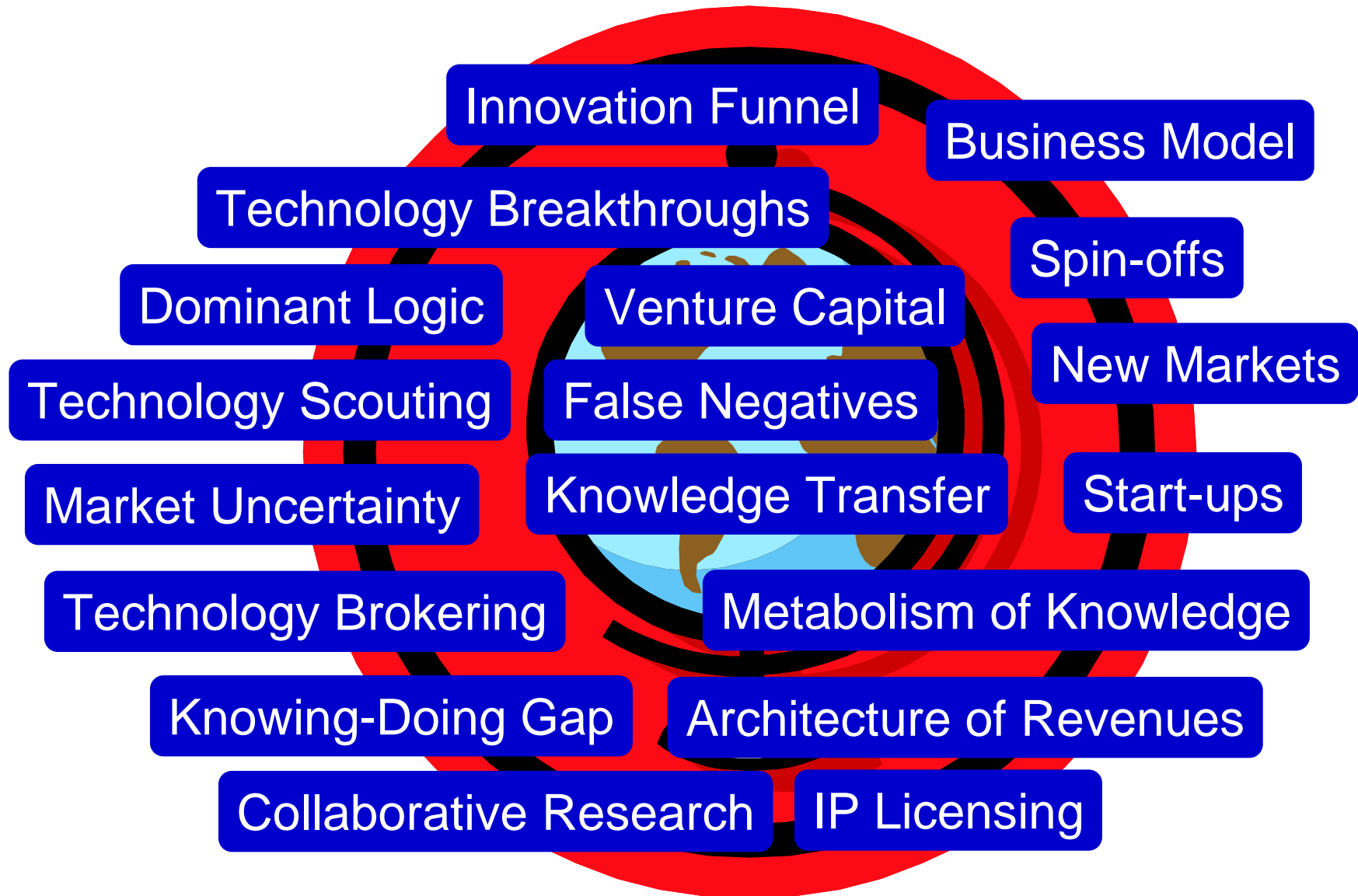
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with a big **Thank You** to Dr. Henry Chesbrough and Chalmers University

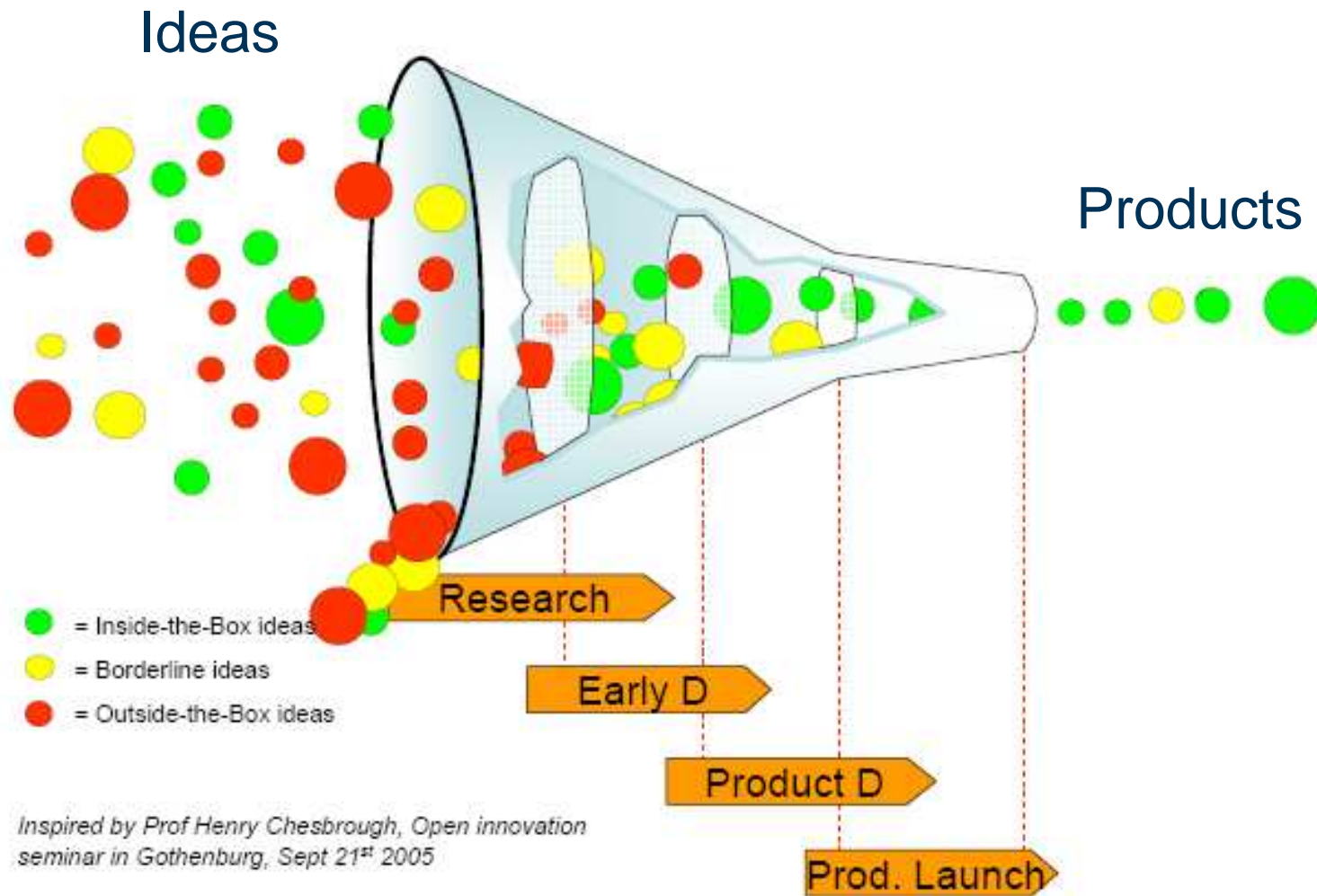
Outline

- Introduction
- Closed Innovation
- Other Approaches to Innovation Mgmt
- The Open Innovation Model
- Q&A

Introduction

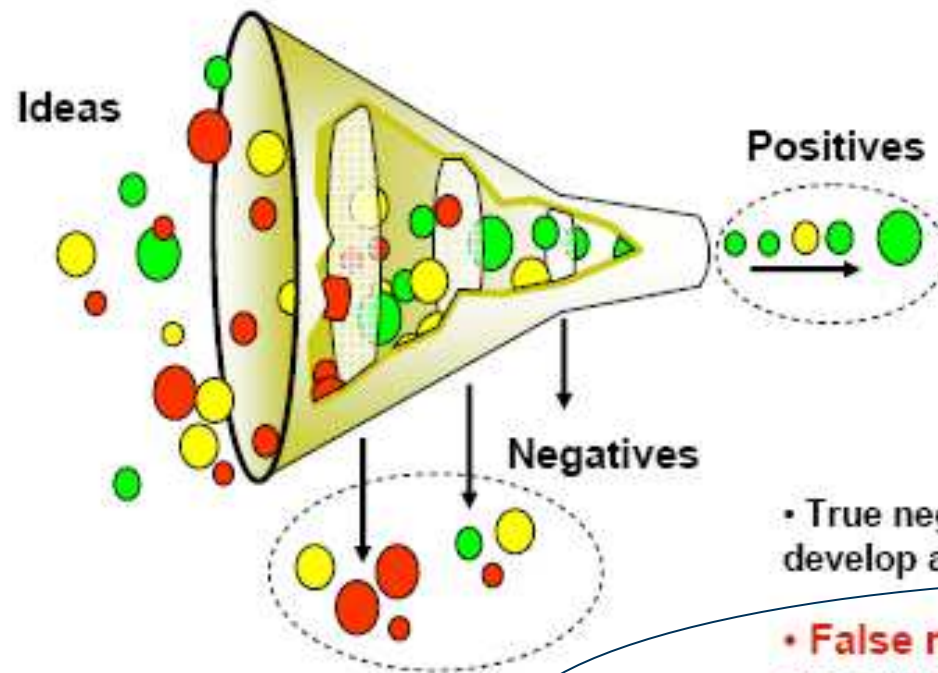


Introduction Innovation Funnel Concept



Introduction

Innovation Funnel Concept (II)



- True positives – launched and received well on the market. However, only incremental innovation
- False positives – launched but not received well on the market.

• True negatives – we save money since we did not develop and launch these ideas.

• **False negatives** – we stop ideas that would generate a lot of money in the future. These could e.g. create new markets. Among the false negatives we find the **disruptive ideas** and breakthrough innovations.

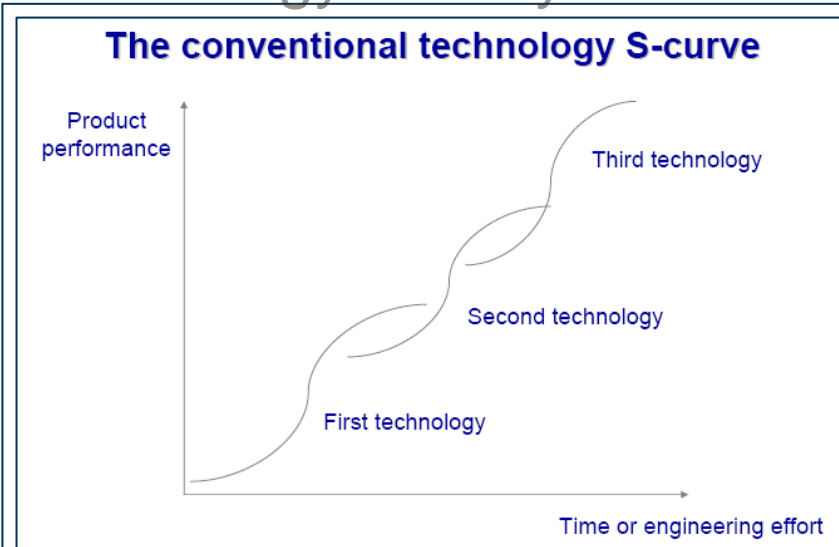
- Incremental ideas
- Border-line ideas
- Radical and Disruptive ideas

CHALMERS

ADVANCED MANAGEMENT PROGRAM

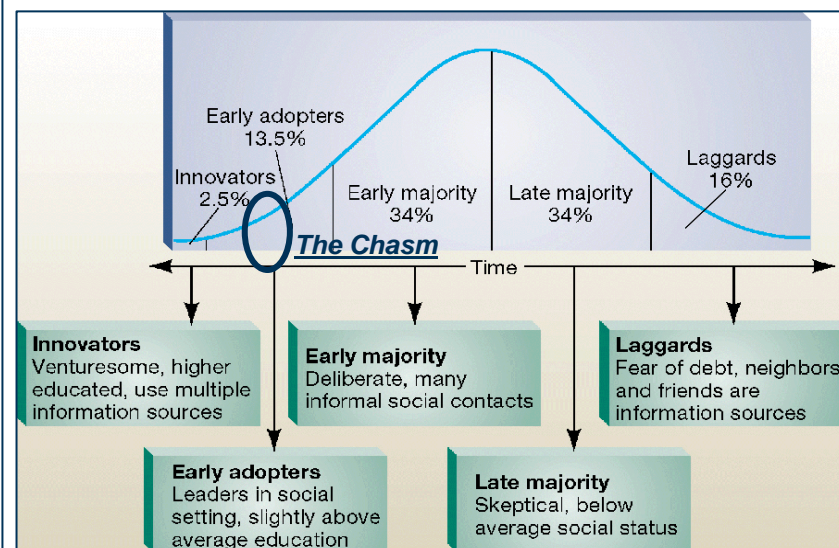
Introduction

Technology Life-Cycle



- The evolution of the performance that a new technology provides over time follows an S-curve:
 - At start is low and improving very slowly
 - then increases rapidly, and
 - finally becomes exhausted no matter how much time or effort is wasted.

- A new technology, despite providing an initial lower performance than a previously established one, will eventually obsolete it



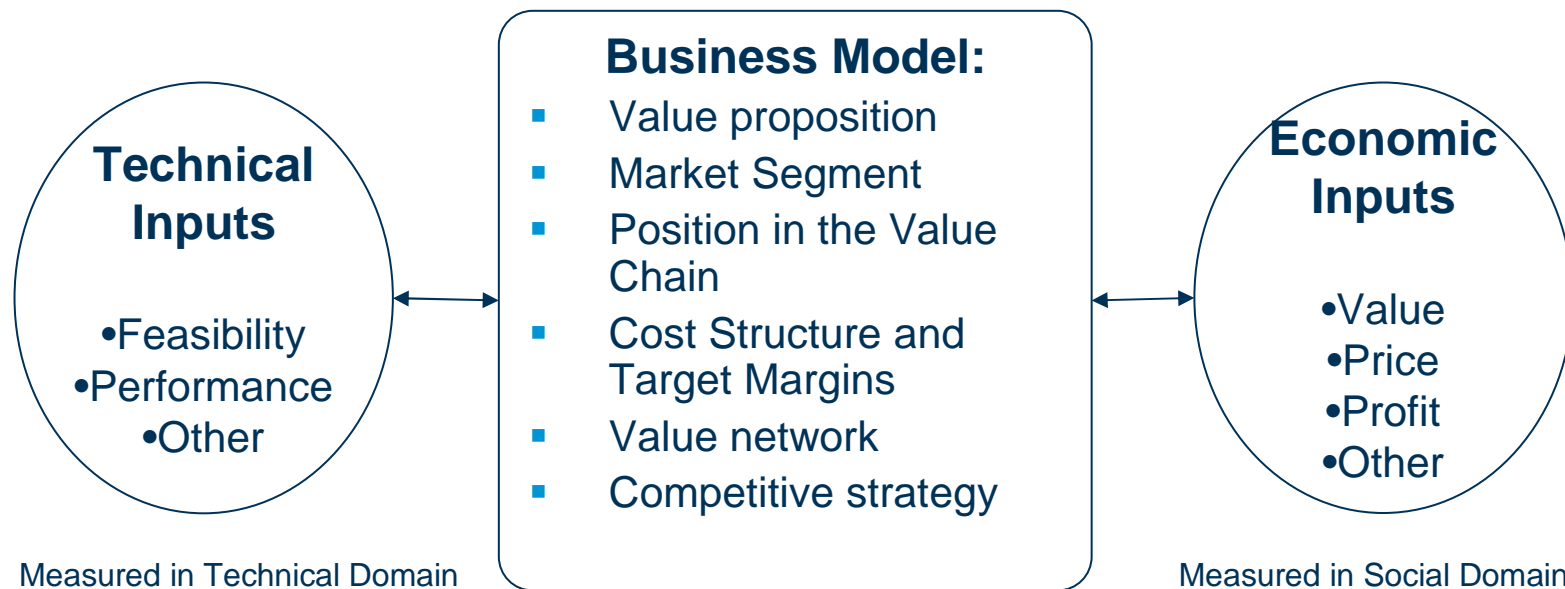
- Revenue Growth vs. Time for a given Technology follows a Bell Curve
 - See Everett M Rogers’ “Diffusion of Innovations”

- Between Innovators and Early adopters there is a *chasm* that only some technologies and business models succeed in crossing
 - See Geoffrey Moore’s “Crossing the Chasm”

Introduction

Technology and Business Model

A new cool *Technology* does not have a value per se;
a suitable *Business Model* must be found and applied



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Introduction

And what is Open Innovation?

An *Innovation* is
an invention that becomes implemented and taken to the market

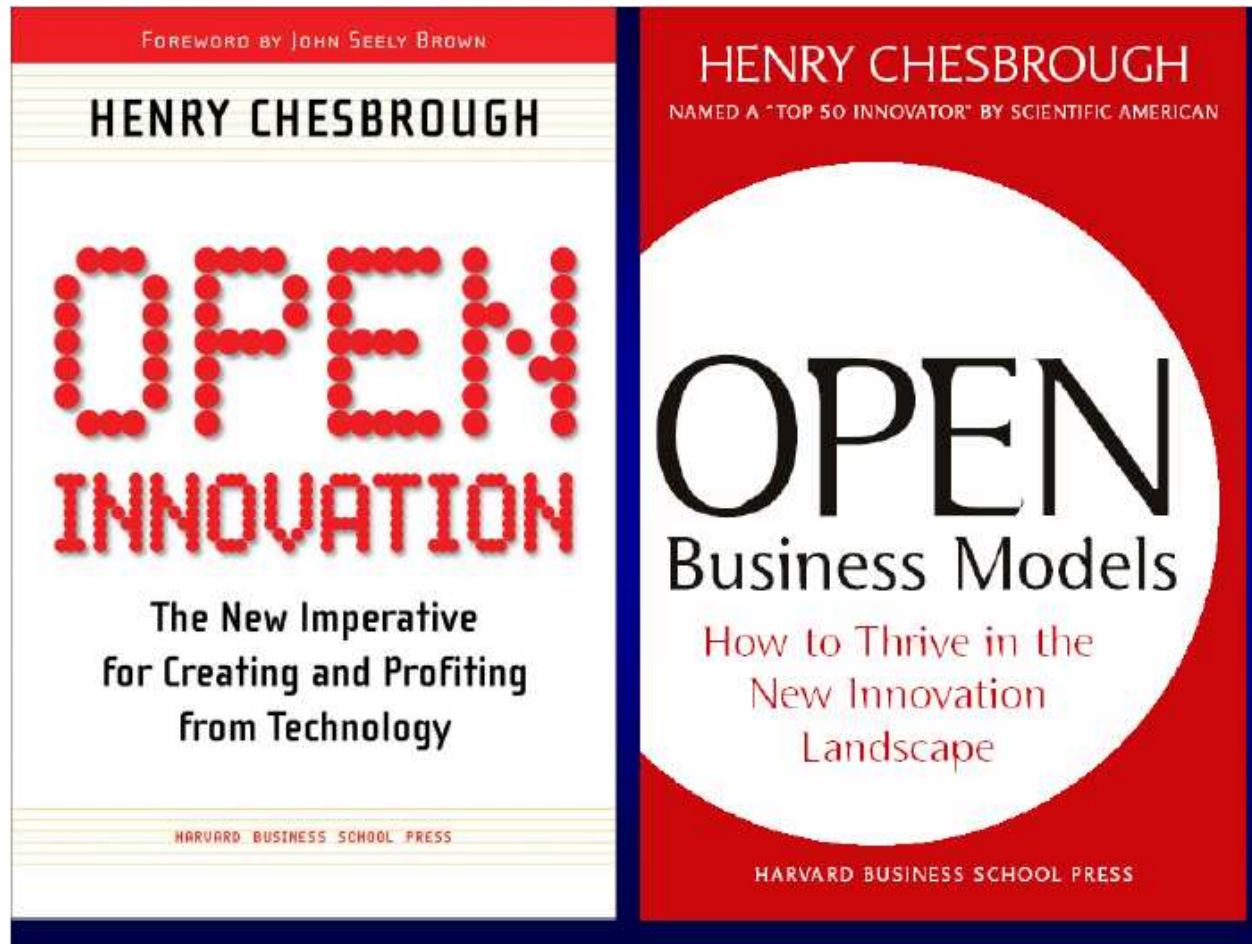
Innovation Management
requires managing
both technical and market
uncertainties

Most attempts to innovate
in large corporations fail,
... but innovations happen
everyday anyway

Open Innovation is an approach to innovation management
that leverages both internal and external ideas and technologies,
finding the suitable business models to make them profitable

Introduction

The Bible of Open Innovation

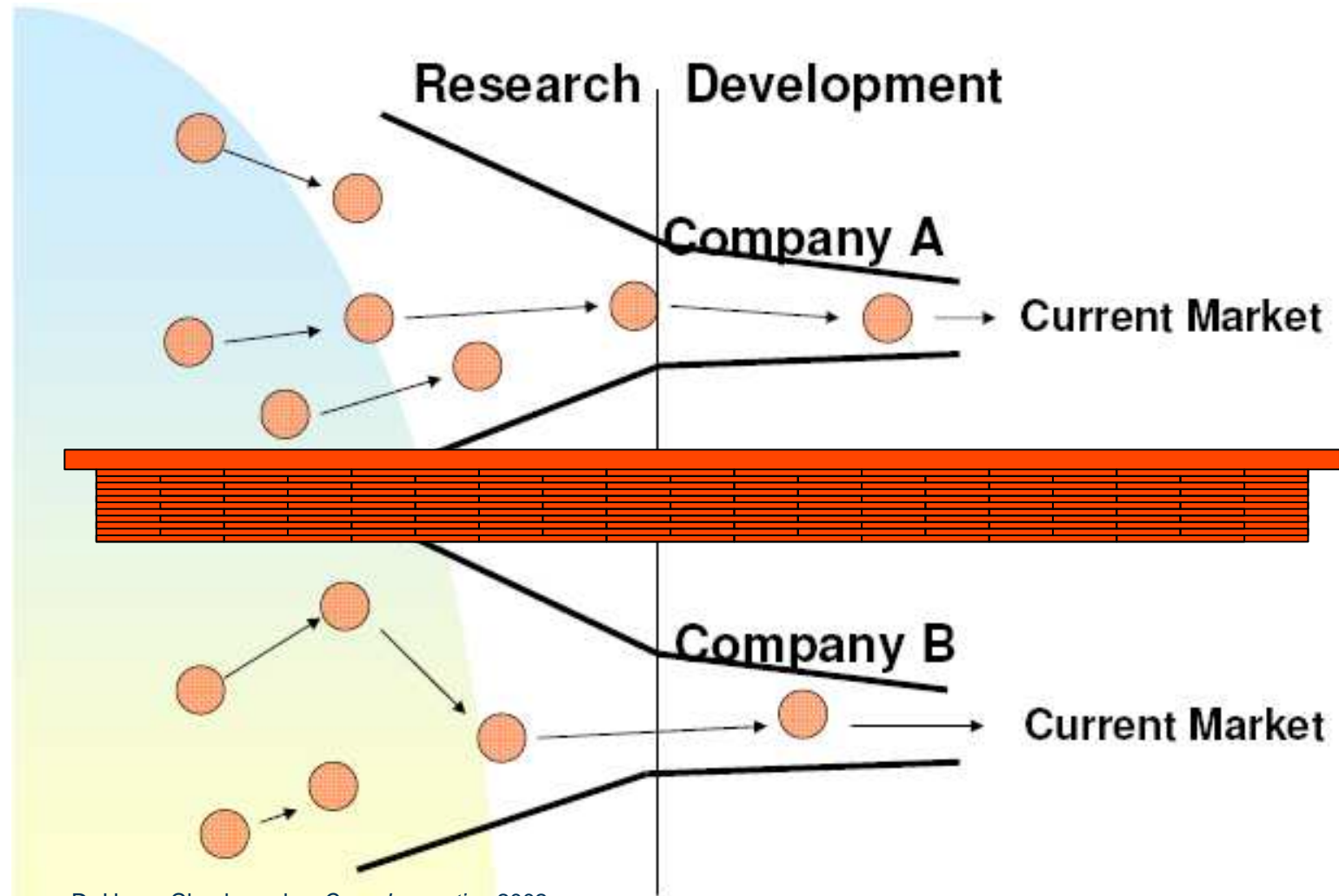


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Closed Innovation

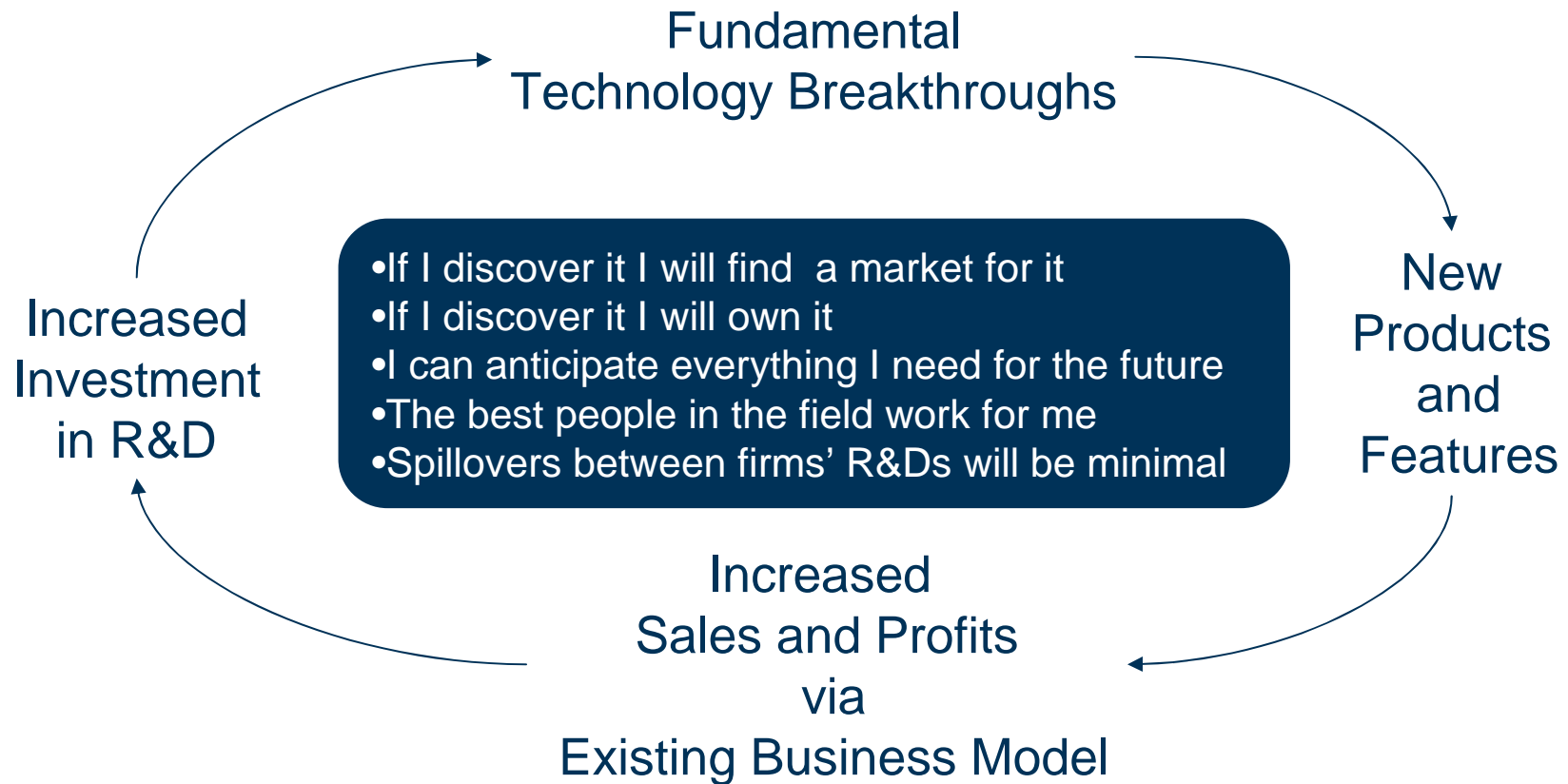
The paradigm



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Closed Innovation

The virtuous circle



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Closed Innovation

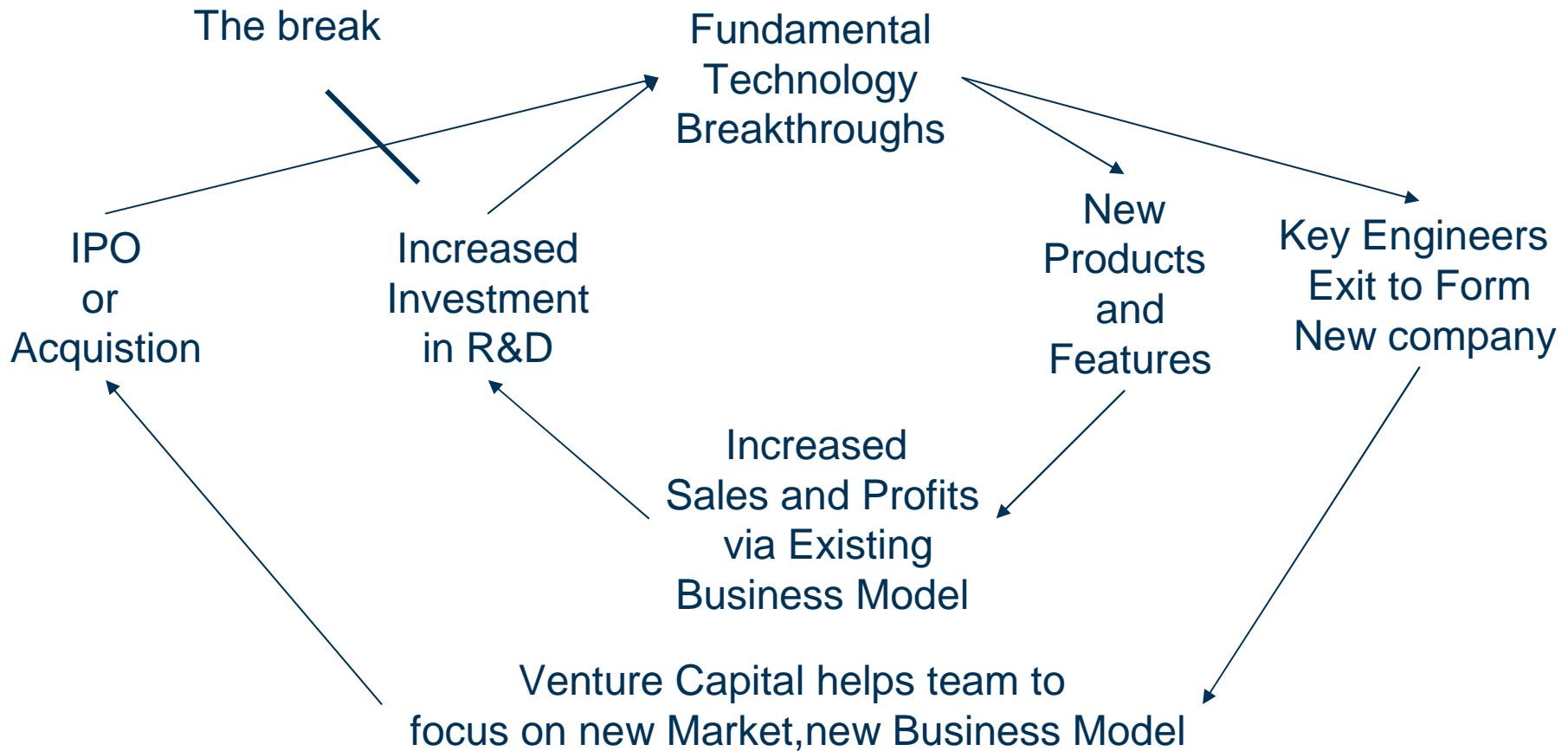
Erosion factors



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Closed Innovation

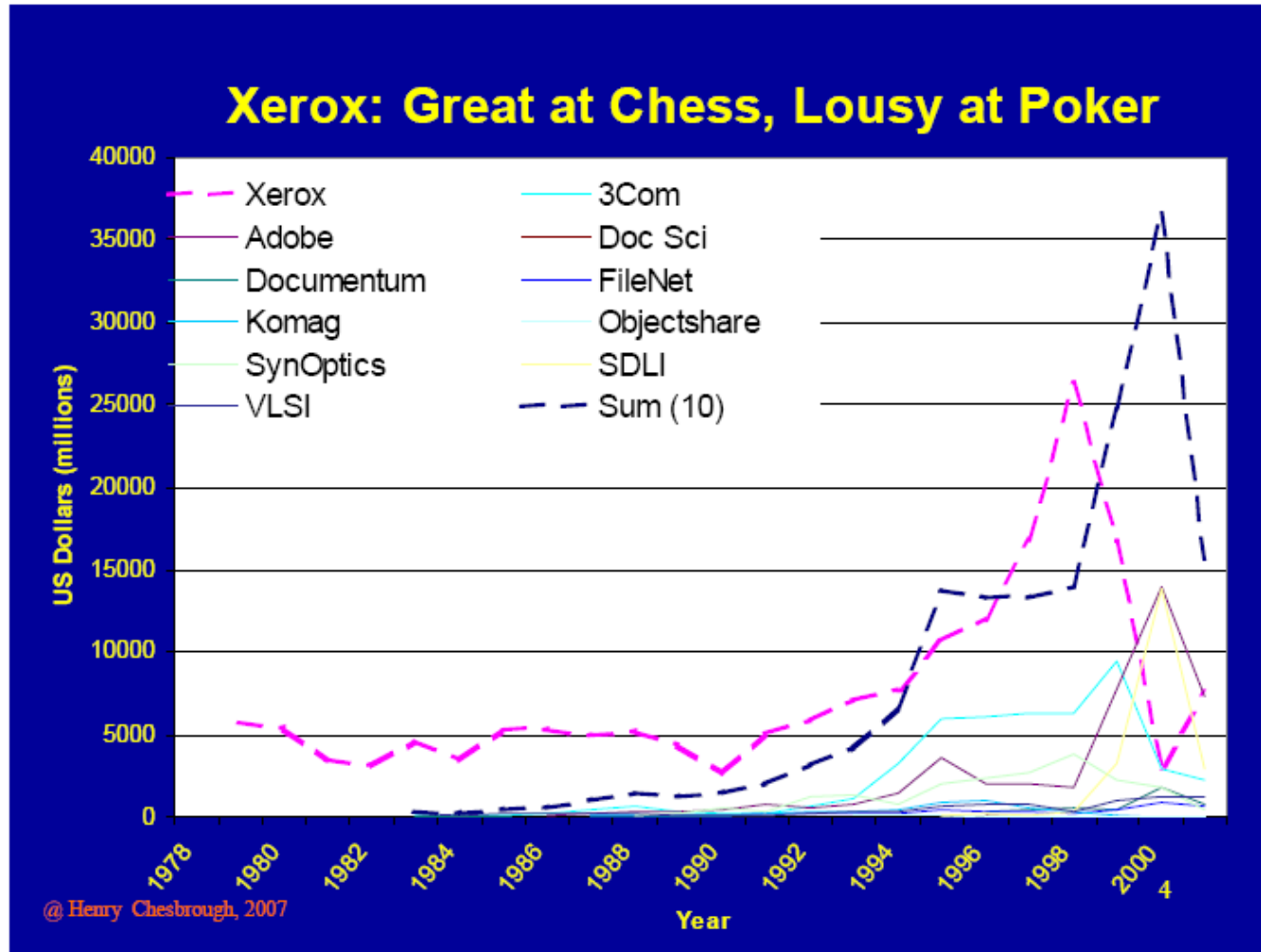
The virtuous circle is broken



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Closed Innovation

The limits of the model (Ex: Xerox PARC)



@ Henry Chesbrough, 2007

Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Outline

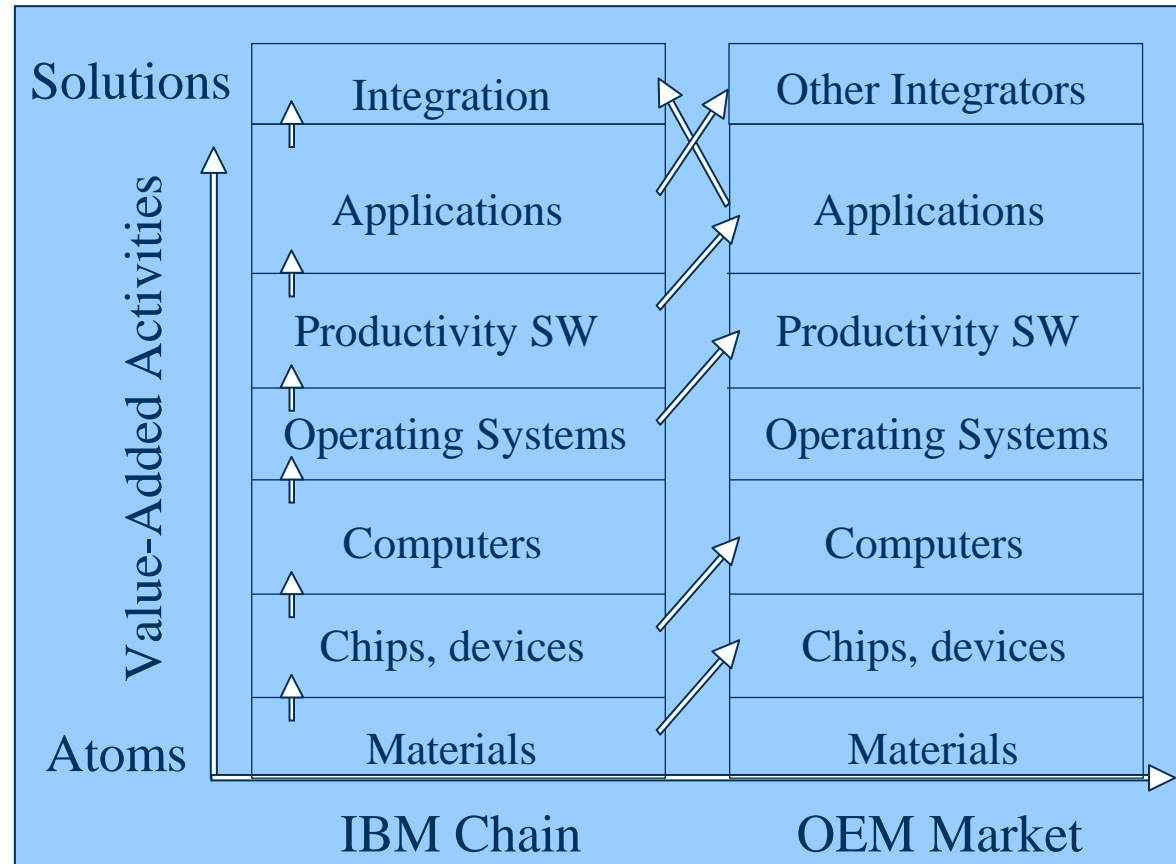
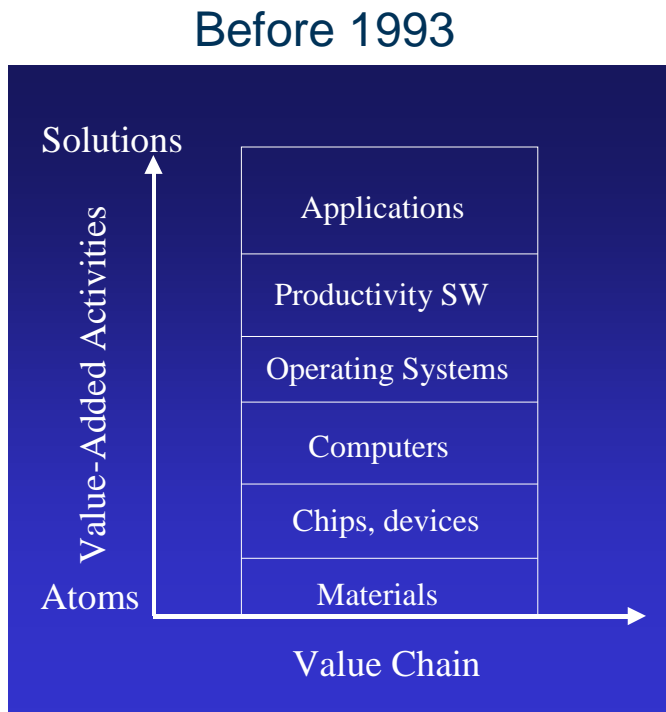
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Other Approaches to Innovation Mgmt Study/Reference Cases

- IBM Transformation
- Lucent's New Ventures Group
- Open Innovation at Intel
- Ericsson Mobile Platform
- ...

IBM Transformation

After 1993

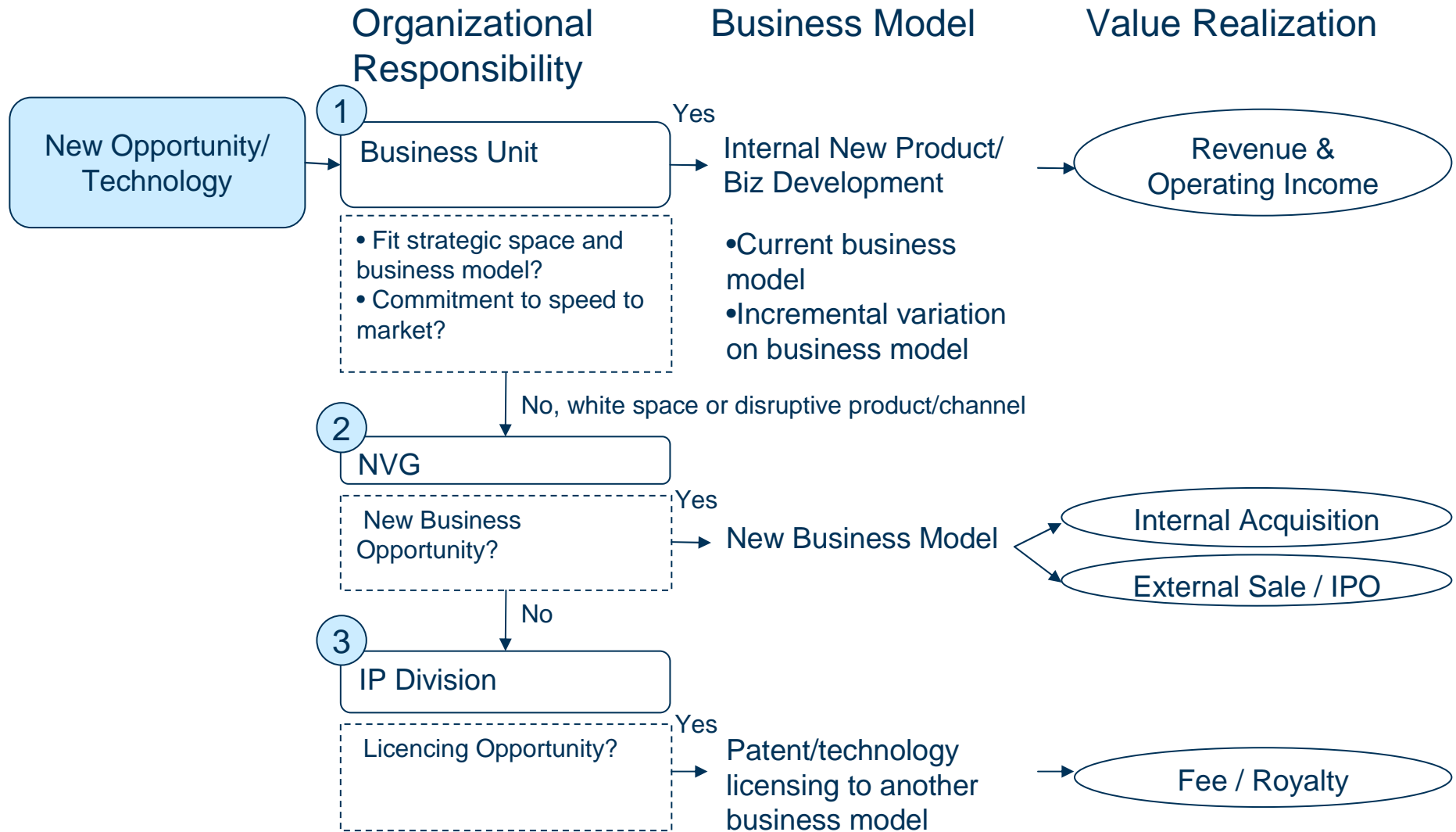


"In order to do anything you have to do everything"
 Most R&D efforts spent on the most complex issues
 (lower part of the value chain)

"Do whatever the customer needs us to do and work with what the customer already has"
 R&D efforts need to be redirected to create new products and services where the customer perceives the most value
 (middle and upper part of the value chain)

Lucent's New Venture Group

NVG's Innovation Model for commercializing New Technology

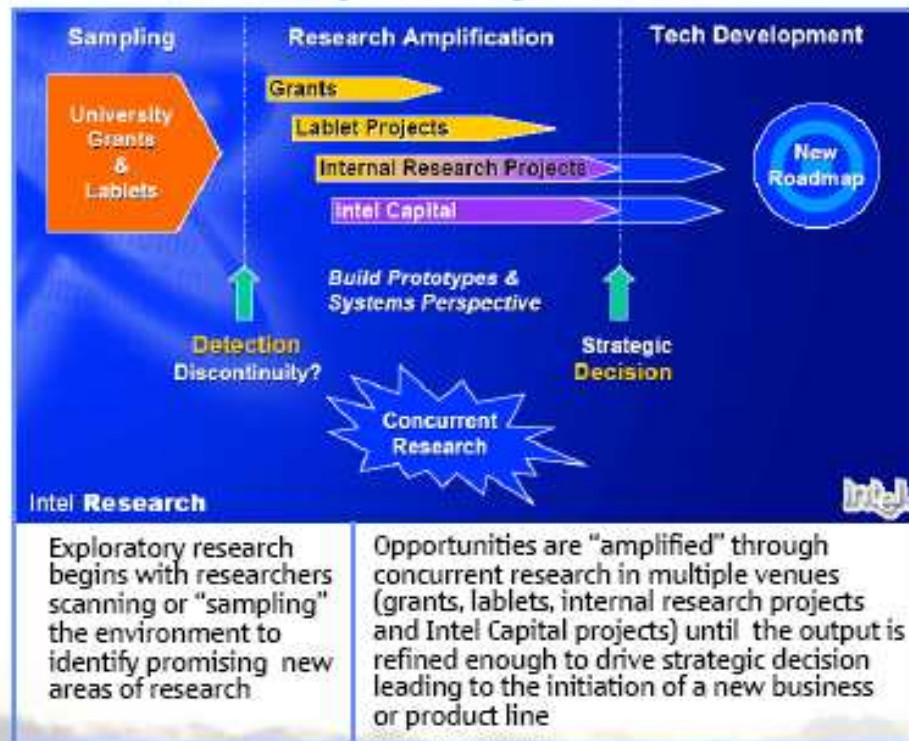


Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Intel

Open Innovation at Intel: universities as networked "idea switches"

Intel Exploratory Research



Coordinated effort between 4 key components

- **University research grants** (500+ universities, up by 1/3 since 1999)
- **Lablets:** Open and collaborative labs near universities
- **Proprietary internal research projects** (also pushed out to the lablets to move the research forward)
- **Corporate venturing** (Intel Capital)

Networked creativity

- "In the past it was possible to hire as many as 30% of the top researchers in a given field under one roof; today it's hard to get 1%; only solution is to bring them into a virtual lab" – David Tennenhouse
- Small like-minded groups around the world will work on the same subject united by research interests rather than physical proximity; the lablets will serve as focal points of these efforts

"Networking like this is the only way to get critical mass in the future"

– David Tennenhouse, VP of Corporate Technology Group

Sources: David Tennenhouse – Intel's Open Collaborative Model of University-Industry Research, Research Technology Management July-August 2004; David Tennenhouse- Intel Presentation on Exploratory Research; Electronic Business September 2002; Technology Review October 200

Ericsson Mobile Platform (EMP)

1990s

Ericsson develops the software for their own mobile phones

In-house technology development.
Not so good selling results:
Ericsson made and lost money with mobile devices

September 2001

Ericsson Mobile Platform is created with the existing R&D department

Ericsson joint venture with Sony: Sony Ericsson Mobile Communications.
Ericsson said: "Sony, take care of the hardware and I will focus in the software"

January 2005

EMP becomes a Business Unit

Start selling software to other mobile phones manufactures.

Nowadays

EMP is leading supplier of 3G technology for mobile phones

EMP software is included in Sony-Ericsson, NEC, Sharp, LG, Amoi, Bellwave, Flextronics, HTC, Lite-On, ...

Technology

EMP develops extensive core technology in the form of

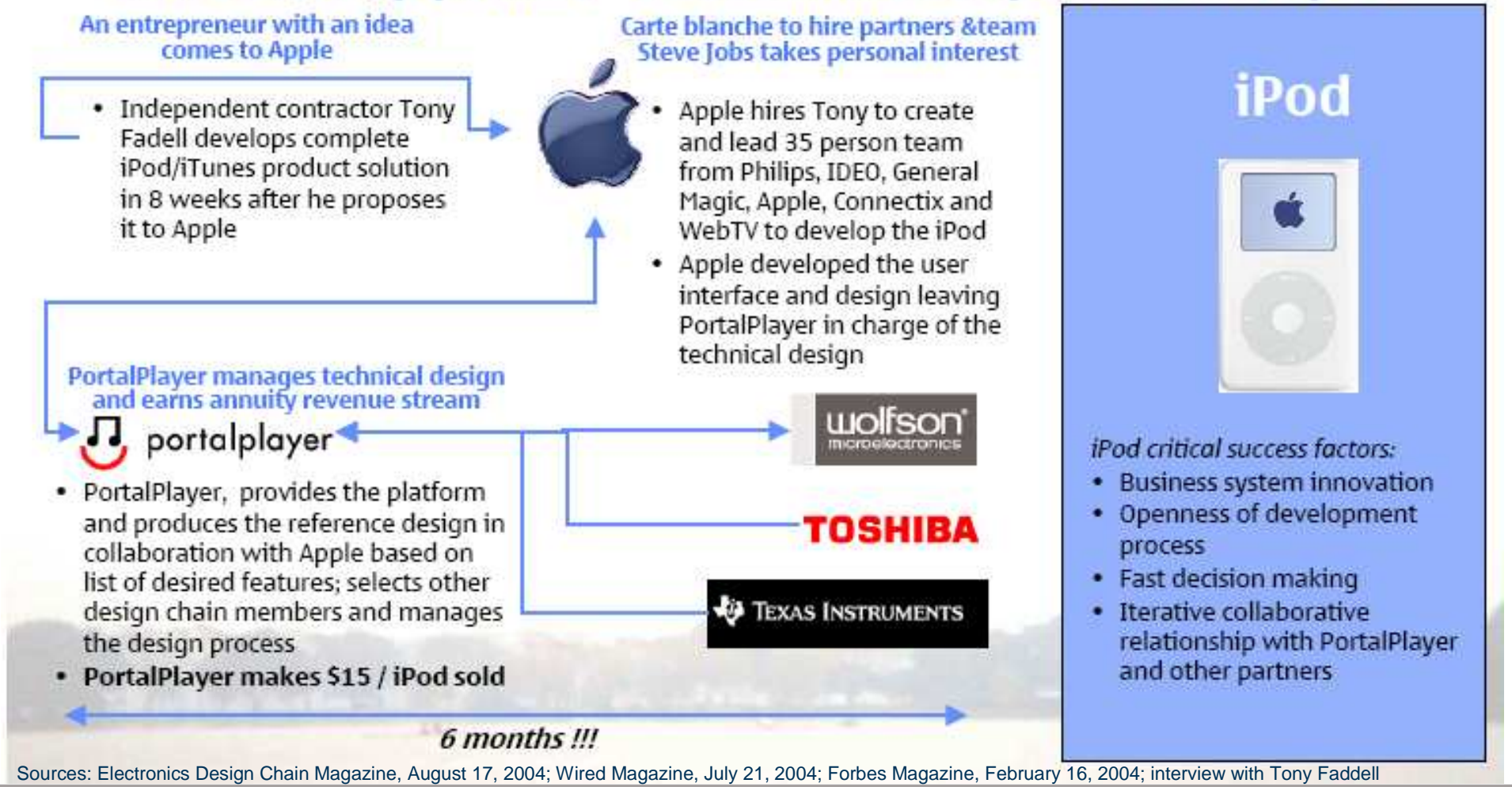
- integrated circuit design
- platform software
- complete design of reference phones
- test software.

Business Model

- **License this core technology** and sell support services to customers.
- Fee is typically divided into an **up-front charge** for access to core technology and a **per-unit royalty**
- **One-stop shopping**
 - Modern phones contain functionality that requires software from multiple parties. Ordinarily, a phone manufacturer will have to negotiate with different software owners
 - EMP can sublicense most software to the phone manufacturer, often at a lower price than the manufacture could obtain through direct negotiation.
 - EMP can thus offer its customers a complete package of key software components and licenses for technology from EMP and third parties.

Apple(iPod)

The creation of the iPod: 6 months, a technology entrepreneur and a start-up partner - a benchmark of openness and speed



Ericsson Mobility World (Partnering Program)

MISSION AND ACTIVITIES

- To **Reuse**: “ The Best practices from Other Market Units based on Third Party Products and then to introduce their solutions to our customers”
- To **Support**: “Support proactively the Operators needs with Enablers, Content & Applications solutions provided by Third Party companies”
- To **Export**: “Search, recruit, refer and market companies that provide add value to our solutions to the World Wide Ericsson Sales channels”
- To **Develop**: New Business areas where Ericsson is not positioned

BENEFITS FOR THE CUSTOMER

- Ericsson provides “One-stop-shopping” for all components, a “turn-key” total solution for Products (HW/SW), Services, Applications and Contents
- The same support flow/contact as for the rest of the installed base from Ericsson
- Ericsson has already chosen suitable Partners, providing the best offer for the customers
- Ericsson ensures that interoperability & new release combinations are certified
- Ericsson is a provider with telecom network perspective

BENEFITS FOR THE PARTNER

- Ericsson is a well respected supplier amongst operators
- Access to 350+ operators and Ericsson sales channels through the Global application catalogue
- Partner is a part of the Ericsson “marketing machine”
- Interoperability certification of Partner products
- Partners decrease marketing and sales costs

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Open Innovation Model

The new logic of Open Innovation

- ❑ *Good Ideas are widely distributed today; no one has a monopoly*
- ❑ *First to discover is neither sufficient nor necessary for commercial success*
- ❑ *A better business model beats a better technology*
- ❑ *IP is a perishable asset: customer or markets don't wait*

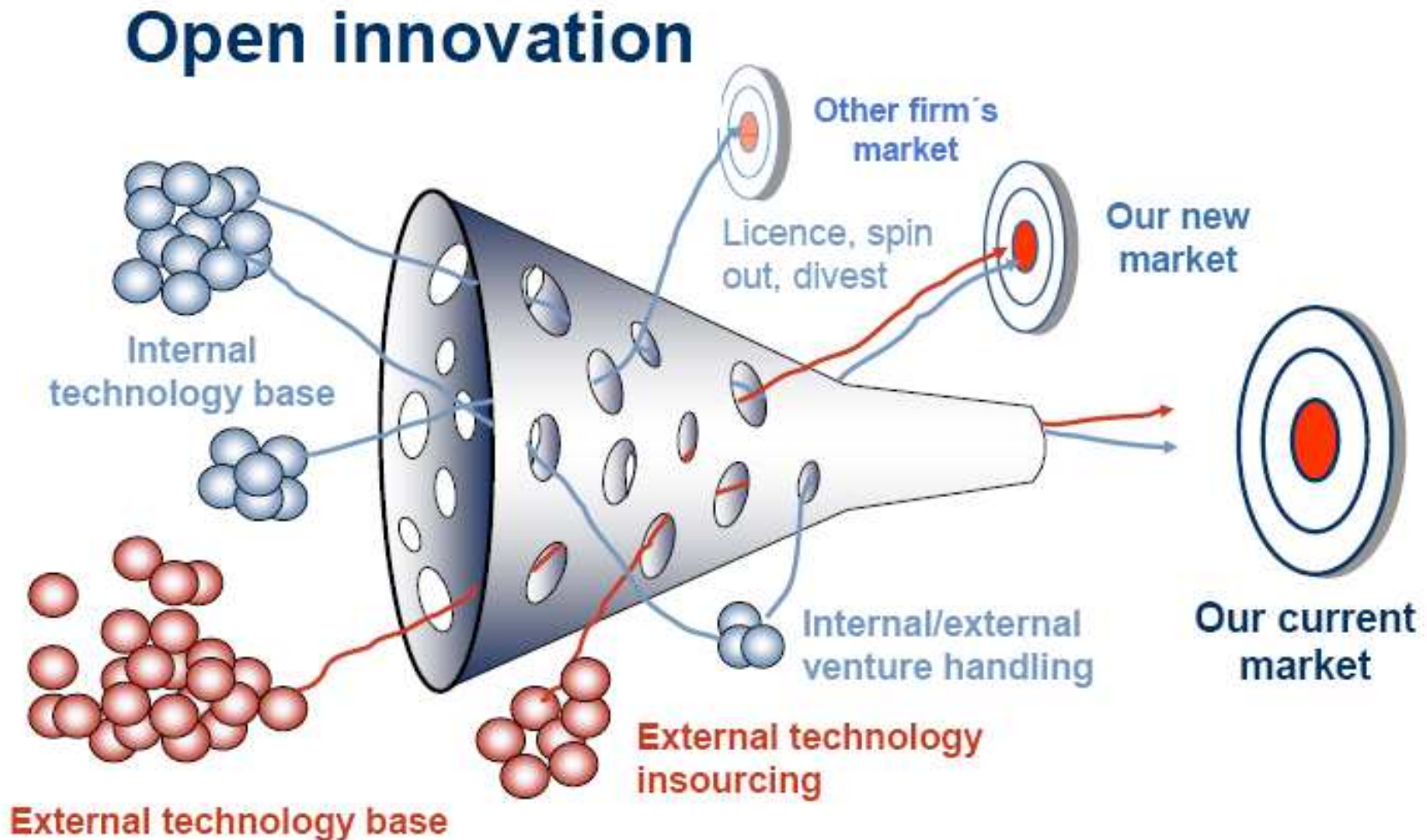


- In a bountiful knowledge landscape, a company organizes its internal R&D:
- To identify, understand, select from, and **connect** to the wealth of available external knowledge
 - To **fill in** the missing pieces of knowledge not being externally developed
 - To **integrate** internal and external knowledge to form more complex combinations of knowledge to **create** new systems and architectures
 - To **generate** additional revenues and profits from selling research outputs to other firms for use in their own systems

Turning apparent new restrictions in the environment
into powerful resources at your service

Open Innovation Model

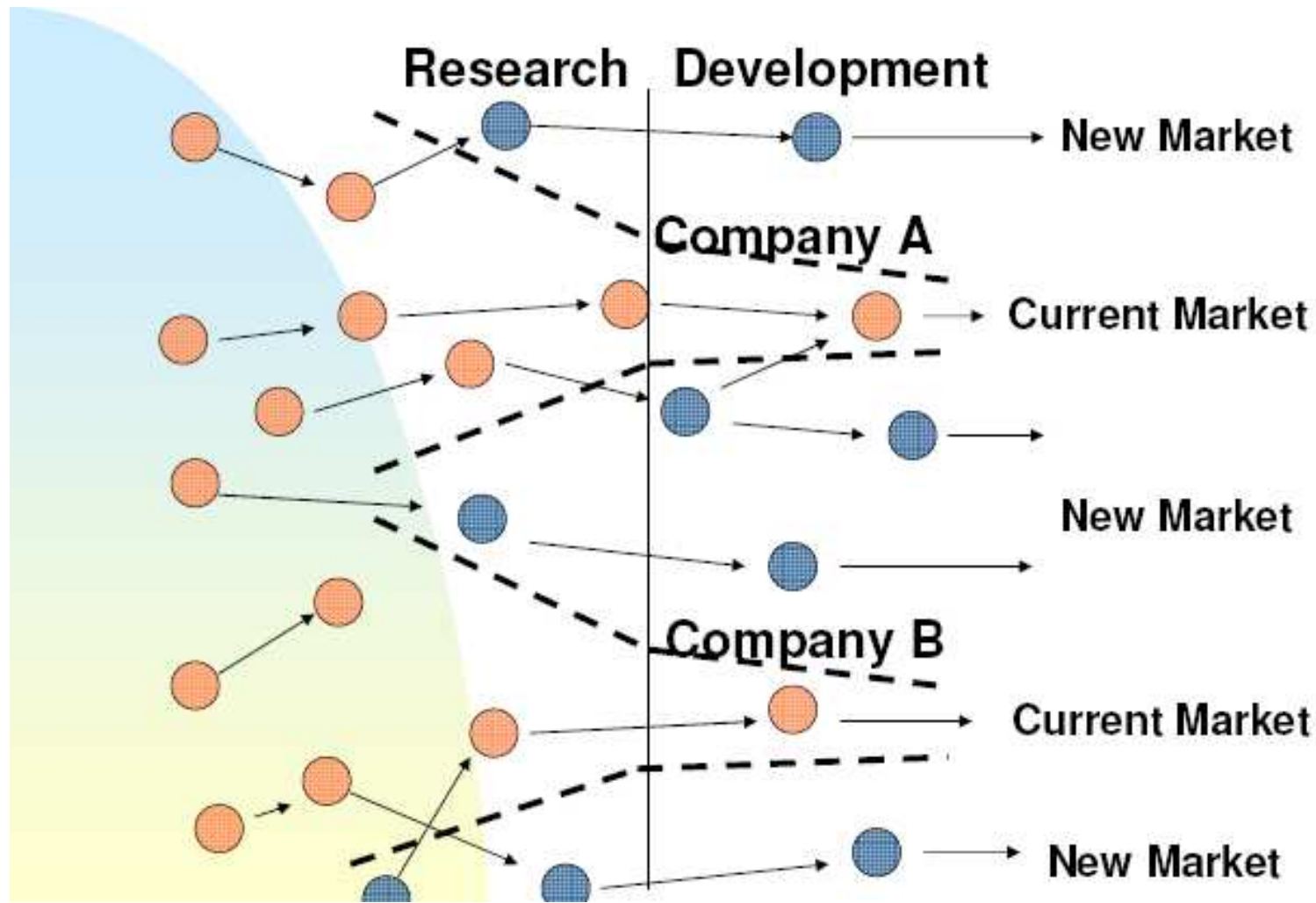
The new paradigm



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Open Innovation Model

A new way of Managing Technology



Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Open Innovation Model

Closed vs Open

	CLOSED INNOVATION	OPEN INNOVATION
PEOPLE	The smart people in our field works for us	Not <i>all</i> smart people work for us. We need to work with smart people inside <u>and</u> outside the company
ROLE OF R&D	To profit from R&D, we must discover, develop and ship ourselves	External R&D can create significant value. Internal R&D is needed to claim some portion of that value
APPROACH TO MARKET	The company that gets innovation to market first will win	Building a better <i>business model</i> is more important than getting to market first
ROLE OF CUSTOMERS	Passive recipient	Active co-innovators
IDEA GENERATION AND MANAGEMENT	If we create the most and the best ideas in the industry we will win	If we make the best use of internal <u>and</u> external ideas we will win
ATTITUDE TOWARDS IPR	We should control IP, so that our competitors cannot profit from it	We should profit from others' use of our IP and we should license in others' IP whenever it advances our business model
ATTITUDE TOWARDS UNIVERSITY	We will own all results from contract research with universities	We will partner with Universities to create knowledge and encourage use outside our field
SUCCESS METRICS	Lower Costs/Increased Margins, Market Share	R&D ROI, breakthrough products or business models

Open Innovation Model

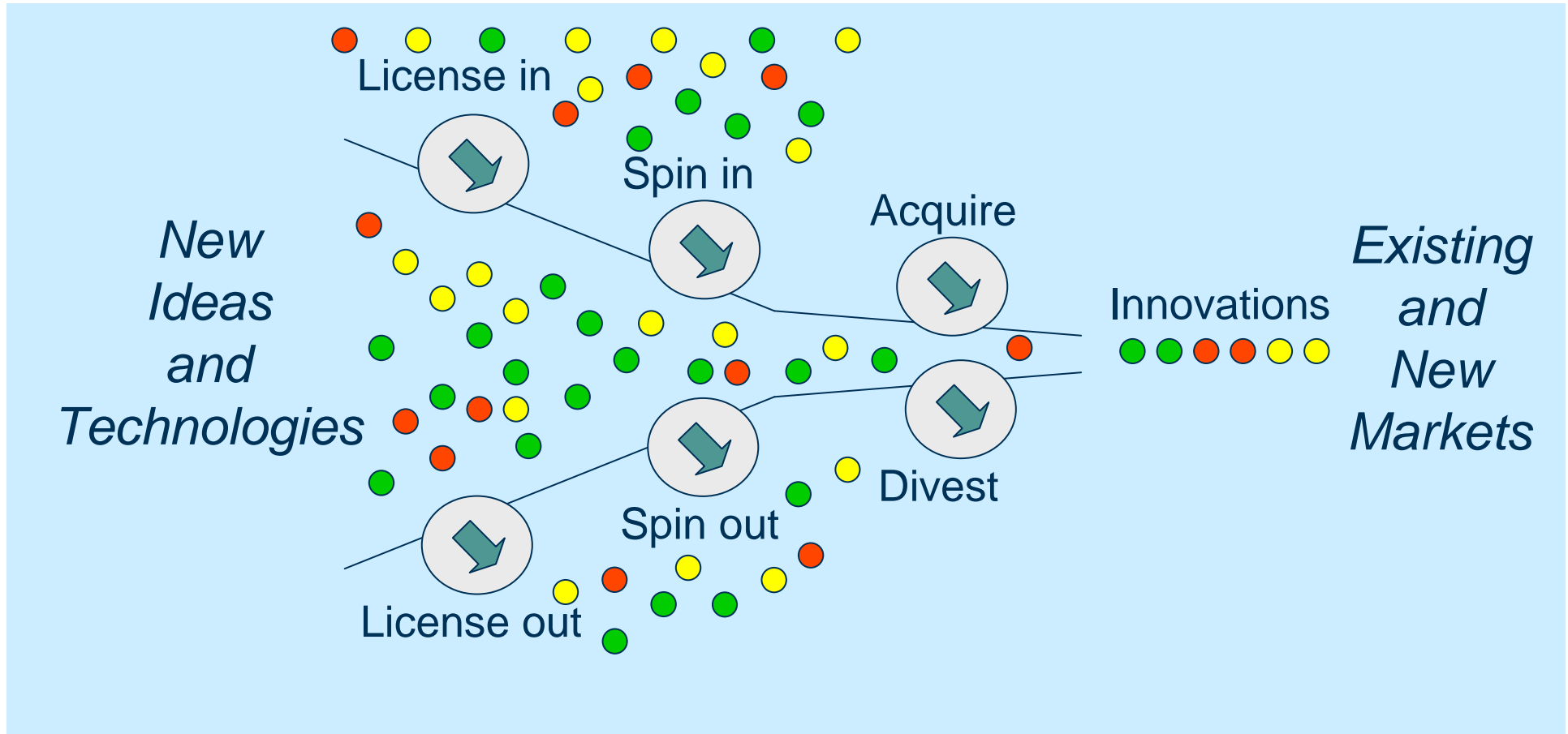
What is NOT Open Innovation

Open Innovation is not about ...	but about ...
open Access to own technologies	→ strategic IPR management
outsourced R&D	→ strategic R&D
technology only	→ both technology and business model
technical invention	→ commercial innovation
appropriating value	→ win-win partnership
new ventures	→ core product development process
partnerships only	→ innovation ecosystem building
cutting research costs	→ improving R&D ROI

Source: Dr. Henry Chesbrough – *Open Innovation* 2002

Open Innovation Model

Summarizing



- More agility and effectiveness of R&D
- Higher rate of new breakthroughs

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TAKING YOU FORWARD