Introduction to Open Innovation
-Student Material-

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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
- Innovation Intermediaries
Introduction

Innovation Funnel Concept

An innovation is an Invention that becomes Implemented and taken to the Market

Inspired by Prof Henry Chesbrough, Open innovation seminar in Gothenburg, Sept 21st 2005
A new cool Technology does not have a value per se; a suitable Business Model must be found and applied.

**Business Model:**
- Value proposition
- Market Segment
- Position in the Value Chain
- Cost Structure and Target Margins
- Value network
- Competitive strategy

**Technical Inputs**
- Feasibility
- Performance
- Other

**Economic Outputs**
- Value
- Price
- Profit
- Other

Measured in Technical Domain

Source: Dr. Henry Chesbrough – *Open Innovation* 2002
Introduction
And what is Open Innovation?
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
Closed Innovation

- How have firms created and managed their innovations in the second half of last century?
Closed Innovation
The paradigm

Source: Dr. Henry Chesbrough – *Open Innovation* 2002
Closed Innovation
The limits of the model (Ex: Xerox PARC)

Source: Dr. Henry Chesbrough – Open Innovation 2002
Can you give examples of companies pioneering other approaches to create and manage their innovations?
Other Approaches to Innovation Mgmt
Study/Reference Cases

- IBM Transformation
- Lucent’s New Ventures Group
- Open Innovation at Intel
- Ericsson Mobile Platforms
- Ericsson Mobility World
- …
IBM Transformation

Before 1993

“Value-Added Activities
Materials
Chips, devices
Computers
Operating Systems
Productivity SW
Applications
Solutions

Atoms

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)

After 1993

“Value-Added Activities
Materials
Chips, devices
Computers
Operating Systems
Productivity SW
Applications
Solutions

Atoms

IBM Chain
OEM Market

“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)
Lucent’s New Venture Group

NVG’s Innovation Model for commercializing New Technology

Organizational Responsibility

1. New Opportunity/Technology
   - Business Unit
     - Fit strategic space and business model?
     - Commitment to speed to market?
   - NVG
     - New Business Opportunity?
     - Yes: New Business Model
     - No: IP Division
       - License Opportunity?
       - Yes: Patent/technology licensing to another business model
       - No: Internal Acquisition

Business Model

- Internal New Product/Biz Development
  - Yes: Revenue & Operating Income
  - No: White space or disruptive product/channel

Value Realization

- External Sale / IPO
- Fee / Royalty

Source: Dr. Henry Chesbrough – Open Innovation 2002
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.

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.
Ericsson Mobility World (Partnering Program)
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
Other Approaches to Innovation Mgmt

- Can you abstract what key changes/improvements in the philosophy of managing innovation those companies introduced?
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

Source: Dr. Henry Chesbrough – Open Innovation 2002
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:
Can you guess the main differences?

<table>
<thead>
<tr>
<th></th>
<th>CLOSED INNOVATION</th>
<th>OPEN INNOVATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEOPLE</td>
<td></td>
<td></td>
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<tr>
<td>ROLE OF R&amp;D</td>
<td></td>
<td></td>
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<tr>
<td>APPROACH TO MARKET</td>
<td></td>
<td></td>
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<tr>
<td>ROLE OF CUSTOMERS</td>
<td></td>
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<tr>
<td>IDEA GENERATION AND MANAGEMENT</td>
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<td>ATTITUDE TOWARDS IPR</td>
<td></td>
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<td>ATTITUDE TOWARDS UNIVERSITY</td>
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<tr>
<td>SUCCESS METRICS</td>
<td></td>
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</tbody>
</table>

Source: Dr. Henry Chesbrough – Open Innovation 2002
## Open Innovation Model

### Closed vs Open

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Closed Innovation</th>
<th>Open Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
<td>The smart people in our field works for us</td>
<td>Not all smart people work for us. We need to work with smart people inside and outside the company</td>
</tr>
<tr>
<td><strong>Role of R&amp;D</strong></td>
<td>To profit from R&amp;D, we must discover, develop and ship ourselves</td>
<td>External R&amp;D can create significant value. Internal R&amp;D is needed to claim some portion of that value</td>
</tr>
<tr>
<td><strong>Approach to Market</strong></td>
<td>The company that gets innovation to market first will win</td>
<td>Building a better <em>business model</em> is more important than getting to market first</td>
</tr>
<tr>
<td><strong>Role of Customers</strong></td>
<td>Passive recipient</td>
<td>Active co-innovators</td>
</tr>
<tr>
<td><strong>Idea Generation and Management</strong></td>
<td>If we create the most and the best ideas in the industry we will win</td>
<td>If we make the best use of internal and external ideas we will win</td>
</tr>
<tr>
<td><strong>Attitude Towards IPR</strong></td>
<td>We should control IP, so that our competitors cannot profit from it</td>
<td>We should profit from others’ use of our IP and we should license in others’ IP whenever it advances our business model</td>
</tr>
<tr>
<td><strong>Attitude Towards University</strong></td>
<td>We will own all results from contract research with universities</td>
<td>We will partner with Universities to create knowledge and encourage use outside our field</td>
</tr>
<tr>
<td><strong>Success Metrics</strong></td>
<td>Lower Costs/Increased Margins, Market Share</td>
<td>R&amp;D ROI, breakthrough products or business models</td>
</tr>
</tbody>
</table>

Source: Dr. Henry Chesbrough – Open Innovation 2002
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

Summary

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

Picture from: Dr. Henry Chesbrough’s – Researching a New Paradigm 2007
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Open Innovation Model
Innovating around the transfer / collaboration

- For an R&D-intensive corporation it is not only about Outside-in
- Transfer/Collaboration Models & Ecosystems make the difference
Open Innovation Model
Innovating around the transfer / collaboration

- Ericsson Mobile Platforms
- Glassfish and other OSC’s
- Ericsson Broadband Modules
- IPR Out-Licensing
- …

- Ericsson Mobility World
- IPX
- labs.ericsson.com
- …

- Spin in of start-ups’ technologies
- Knowledge Transfers from Universities
- Acquisitions: Netspira, Marconi, Redback, Tandberg, LHS, Drutt,…
- …

- For an R&D-intensive corporation it is not only about Outside-in
- Transfer/Collaboration Models & Ecosystems make the difference
Innovation Intermediaries

Why?

- Arrow Information Paradox
- Contamination
- Identity
- Useful, non-obvious sources
- Technology Valuation
- Secondary market scale

Innovation Intermediaries help you address these problems

What if your competitors are using them?

Source: Dr. Henry Chesbrough – Open Business Models 2005
Innovation Intermediaries

References

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