

Open Innovation Basics

“Economic aspects of libre software”

MSWL Introduction

Master on libre software

URJC - GSyC/Libresoft

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CeDInt - UPM

Madrid, 26 noviembre 2010

- There are symptoms of a paradigm shift in innovation. No longer the traditional models are enough to maintain a competitive position in the ICT sector.
- Two main innovation trends emerge: open innovation and user innovation
- Open innovation refers to the use of knowledge, both internal and external, to accelerate internal innovation and expand the markets for external use of innovation
- User-driven innovation refers to innovations developed from/by consumers and end users, rather than industry

Objectives



- Understand the concepts of open innovation and user innovation in the context of firms' innovation strategies.
- Realise the differences between open and user innovation and traditional vertical integrated models where internal research and development activities lead to innovation.
- Understand how firms can (and sometimes should) use external ideas as well as internal ideas as they look to advance in their strategies.

Contents



- Open innovation: concepts, failures of the traditional model, external knowledge exploitation, and caveats
- Case study: CeDInt - UPM
- Assingment: Google's Android

New innovation practices

Advances
in IT

- Social software
- diffusion
- speed
- cost

User-generated
content and
innovation

Innovation practices

Firms

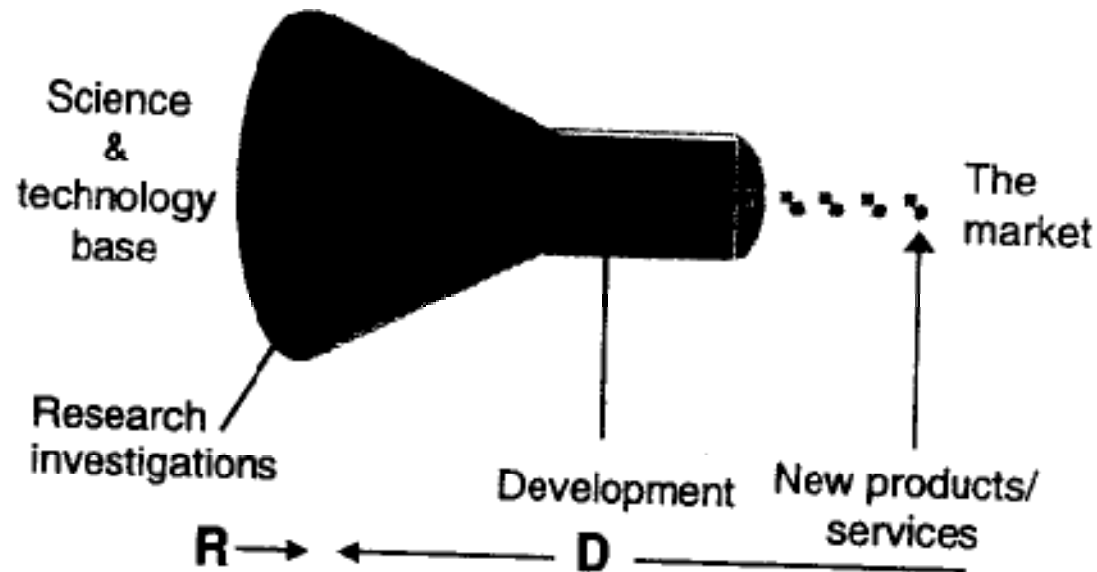
Interaction

User
community

Hybrid
organizations

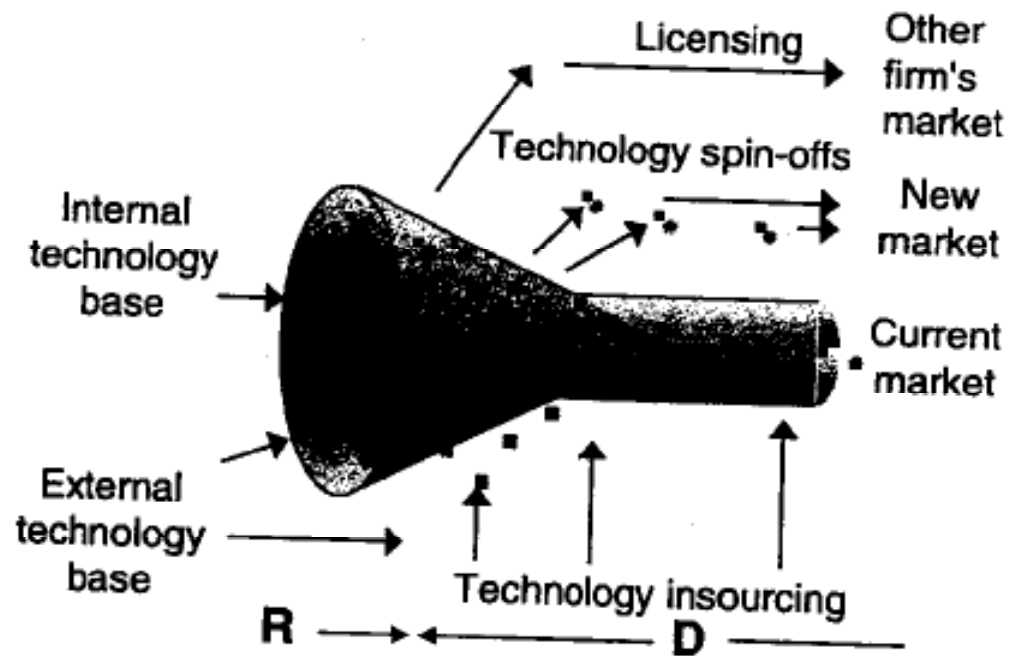
- Open innovation
- Entrepreneurial opportunities

- Open innovation is the antithesis of the traditional vertical integration model where internal research and development lead to mostly internally developed products that are then distributed by the firm.



Source: Chesbrough (2006)

- Open innovation is the use of the knowledge, both internal and external, to accelerate internal innovation and expand the markets for external use of innovation.



Source: Chesbrough (2006)

- Open innovation assumes that useful knowledge is widely distributed, and that even the most capable organisations must identify, connect to and leverage external sources as a core process in innovation
- There is the possibility to capture spillovers from R&D processes and transform them into opportunities to expand companies' business models or to spin off a technology outside the firm
- The opportunity to use profitably intellectual property assets instead of using them to build barriers around the techno-economic model of the firm.

- Economies of scope (improve production activities) and economies of scale (accumulated knowledge) led to vertically integrated innovation models ...
- ... however this research organisations encountered many difficulties to use internal generated spillovers that could not be commercialised using existing procedures and strategies (Examples: Bell Labs, Xerox Parc).
- Difficulties in using “external” technology ...
- ... “absorptive capacity” highlights the importance of investing in internal research in order to be able to utilize external technology. Failures to exploit external R&D can cause competitive disadvantage.

- *“Not all the smart people work for you”* (Chesbrough, 2006)
- Sources of external knowledge:
 - Universities
 - Public administrations
 - Private research organisations
 - Research communities
 - Competitors
 - Suppliers
 - Users-Customers

- Strategies to develop absorptive capacity using external sources of knowledge:
 - Imitation of a competitor for free riding of its investments
 - Consulting with consumers who are lead users
 - Using signals coming from public administrations R&D spending
 - Funding university research to generate external spillovers
 - Imitation and/or use of open source software development model
 - “Network” approach, based on strategic alliances to share the access to knowledge
 - Creation of intermediate markets for innovation
 - Geographical location
 - User empowerment and integration in the firm’s innovation processes

- Equal or greater importance given to external knowledge, in comparison to internal knowledge
- The relevance of the business model in converting R&D into commercial value
- Avoiding the mistakes in evaluating R&D projects, both when profitable R&D projects are deemed not adequate for the company or when R&D projects are suppressed although they could have led to a new and profitable business model
- The purposive outbound flows of knowledge and technology
- The abundant underlying technology landscape
- The proactive role of intellectual property (IP) management
- The rise of innovation intermediaries
- New metrics for assessing innovation performance

Open Innovation. Some caveats



- Too soon to know if open innovation will make an enduring contribution ... however many of the main companies are using it!
- Available evidences come from “high technology” industries, such ICTs or pharmaceuticals ... open question in the case of lower technology or mature industries
- Open innovation has gained momentum due to globalisation and potential R&D outsourcing (off-shore?)
- Open innovation is different from open source software. Business models are the method for value creation and capture in open innovation
- User innovation part of the open innovation model
- Dependence on business environments and institutional frameworks

Case study on Open Innovation: CeDInt - UPM



- Discuss the ideal conditions and best practices from open innovation that would help to stimulate entrepreneurship in a scientific research centre like CeDInt (to be presented).

Assignment: Google's Android



- Compare Google's Android model with the theoretical model for open innovation and FLOSS, identifying similarities and dissimilarities (suggestion: 2 slides).
- Frame Google's Android innovation model in the overall context of Google strategy for the mobile domain (suggestion: answer why an Android handset supplied by Google? in 1 slide).