

Innovation

RESEARCH AND DEVELOPMENT IN THE COMPANY

- Innovation - purposeful innovation results from analysis, systemic review and hard work and can be taught, replicated and learned (Drucker 1993).
- Purposeful, systemic innovation begins with the analysis of opportunities. The search must be organized and conducted on a regular basis.

Drucker identified seven sources of opportunity that will ultimately drive innovation:

- The organization's own unexpected successes and failures, and also those of the competition.
- Incongruities, especially those in a process, such as production, distribution, or incongruities in customer behavior.
- Process needs.
- Changes in industry and market structures.
- Changes in demographics.
- Changes in meaning and perception.
- New knowledge.

- Innovation has to be simple and it has to be focused.
- It should only do one thing or it confuses people and won't work. All effective innovations are breathtakingly simple. It should focus on a specific need that is satisfied and on a specific end result that it produces.

According to Drucker, there are three conditions that must be met for an innovation to be successful including:

- Innovation is work. It requires knowledge, ingenuity, creativity, etc. Plus, innovators rarely work in more than one area, be it finance, healthcare, retail or whatever. This work requires diligence, perseverance and commitment.

- To succeed, innovators must build on their own strengths. They must look at opportunities over a wide range, then ask which of the opportunities fits me, fits this company. There must be a temperamental fit with the practitioner and a link to business strategy.

- Innovation is an effect in economy and society, a change in the behavior of customers, of teachers, of farmers, of doctors, of people in general. Or, it is a change in a process, in how people work and produce something. Innovation must always be close to the market, focused on the market, and market driven.

Types of innovation

- The simplest way to categorize innovation is into two types – incremental and radical.
- Incremental innovation is an improvement in an existing thing (e.g. product, process or service).
- Radical innovation is finding an entirely new way of doing something. (<http://innovationexcellence.com>)
- Another ones:
- <https://thegentleartofsmartstealing.wordpress.com/types-of-innovation/>

- Larry Keeley divides all corporate innovations into ten categories. These are:
- Profit model – how you price your product or service and make money. E.g. Gillette innovated with the razor and blades model.
- Network – external relationships and partnerships. E.g. Toshiba collaborated with UPS to repair Toshiba laptops.
- Structure – how you organize your company. E.g. W. L. Gore has a renowned ‘flat lattice’ where teams form without formal structure.
- Process – doing things differently. E.g. Zipcar radically changed the car hire process.
- Product performance – new products or features. E.g. Dyson launched a transparent vacuum cleaner with no bag.

- Product system – how your product connects. E.g. Mozilla used an army of independent developers to create Firefox and its plug-ins.
- Service – additional support and enhancements. E.g. Zappos empowered customer reps to send flowers or order from a competitor.
- Channel – how you get to market. E.g. Amazon's Whispernet service allows users to order and download a Kindle book in one minute.
- Brand – the promise you make. E.g. Virgin. From Cola to Space travel, all the many Virgin companies share a fun, challenger image.
- Customer Engagement – the client experience. E.g. Blizzard Entertainment's World of Warcraft gives players a collaborative gaming experience.
- (<http://innovationexcellence.com>)

5 steps innovation process

- Idea generation
- Advocacy and screening
- Experimentation
- Commercialization
- Diffusion and implementation

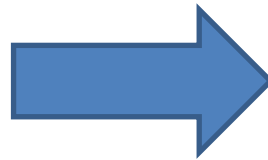
Idea generation

- SCAMPER
- „S“ substitutes
- „C“ combine
- „A“ adapt
- „M“ modify
- „P“ put to other uses
- „E“ eliminate
- „R“ reverse, rearrange

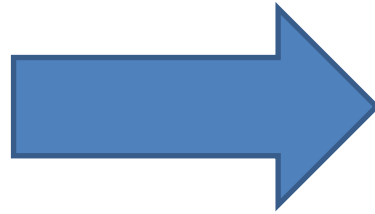
- Substitute



- Combine



- Adapt



- Modify



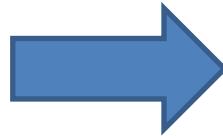
- Put to other uses



- Eliminate

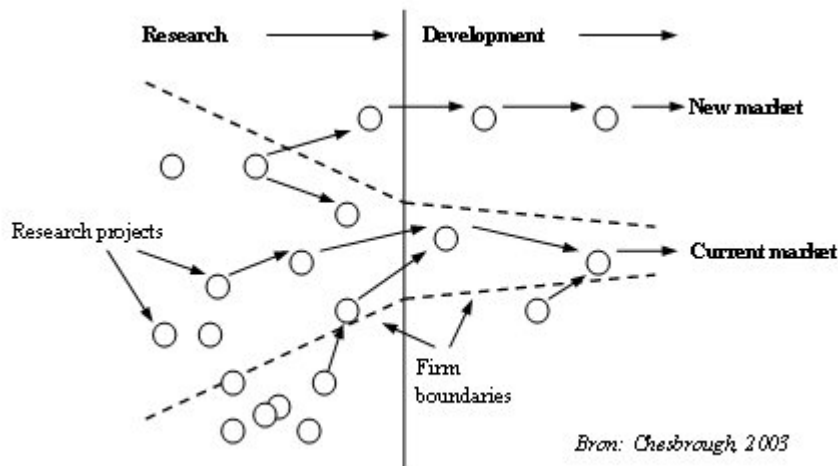


- Reverse, rearrange



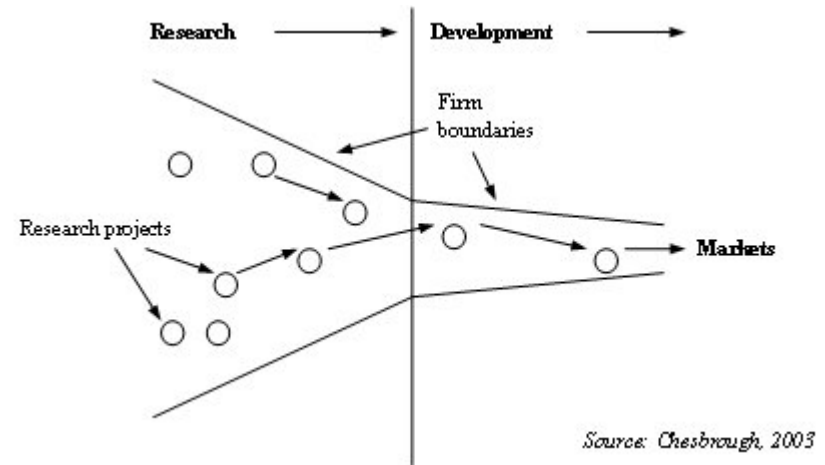
Open vs. Closed innovation

- Open



Open innovation combining internal and external ideas as well as internal and external paths to market to advance the development of new technologies

- Closed



Traditionally, new business development processes and the marketing of new products took place within the firm boundaries (Figure 1).

Open vs. Closed innovation

Closed Innovation Principles

The smart people in the field work for us.

To profit from R&D, we must discover it, develop it, and ship it ourselves.

If we discover it ourselves, we will get it to the market first.

The company that gets an innovation to the market first will win.

If we create the most and the best ideas in the industry, we will win.

We should control our intellectual property (IP) so that our competitors don't profit from our ideas

Open Innovation Principles

Not all the smart people work for us, so we must find and tap into the knowledge and expertise of bright individuals outside our company.

External R&D can create significant value: internal R&D is needed to claim some portion of that value.

We don't have to originate the research to profit from it.

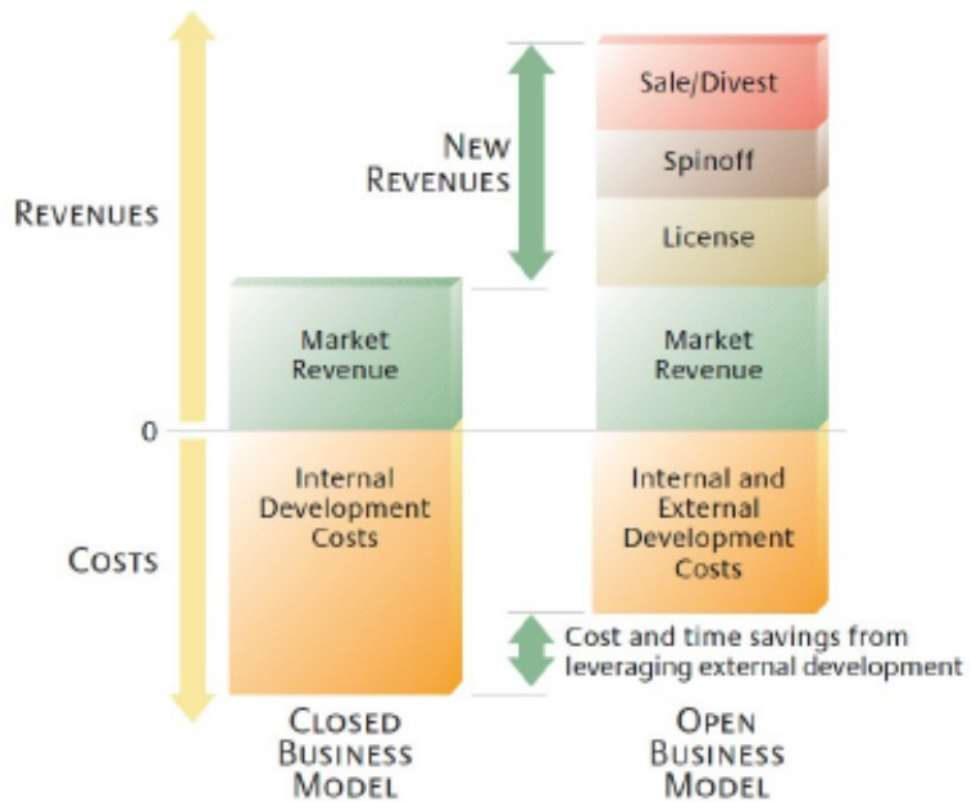
Building a better business model is better than getting to the market first.

If we make the best use of internal and external ideas, we will win.

We should profit from others' use of our IP, and we should buy others' IP whenever it advances our business model.

- This means that within the company a shift should take place in the way people look at the company and its environment. Involving other parties when developing new products and technologies can be of great added value. Think for instance about cooperation with other firms in your sector, suppliers, universities, and of course end-users.
- The business model plays a crucial role in this is. After all, how and when external knowledge is required and used is to a large extent determined by the companies' business model which describes how value can be created from innovations and which elements have to be sourced internally or externally.

Reference: Chesbrough, H. (2003), *“Open Innovation: The New Imperative for Creating and Profiting from Technology”*, Harvard Business School Press.



Advantages of open innovation

- Open innovation offers several benefits to companies operating on a program of global collaboration:
- Reduced cost of conducting research and development
- Potential for improvement in development productivity
- Incorporation of customers early in the development process
- Increase in accuracy for market research and customer targeting
- Potential for synergism between internal and external innovations
- Potential for viral marketing

West, J.; Gallagher, S. (2006). "Challenges of open innovation: The paradox of firm investment in open-source software". R and D Management. 36 (3): 319. [doi:10.1111/j.1467-9310.2006.00436.x](https://doi.org/10.1111/j.1467-9310.2006.00436.x)

Schutte, Corne; Marais, Stephan (2010). "The Development of Open Innovation Models to Assist the Innovation Process". University of Stellenbosch, South Africa.

Disadvantages of open innovation

- Implementing a model of open innovation is naturally associated with a number of risks and challenges, including:
- Possibility of revealing information not intended for sharing
- Potential for the hosting organization to lose their competitive advantage as a consequence of revealing intellectual property
- Increased complexity of controlling innovation and regulating how contributors affect a project
- Devising a means to properly identify and incorporate external innovation
- Realigning innovation strategies to extend beyond the firm in order to maximize the return from external innovation

West, J.; Gallagher, S. (2006). "Challenges of open innovation: The paradox of firm investment in open-source software". *R and D Management*. **36** (3): 319. [doi:10.1111/j.1467-9310.2006.00436.x](https://doi.org/10.1111/j.1467-9310.2006.00436.x)

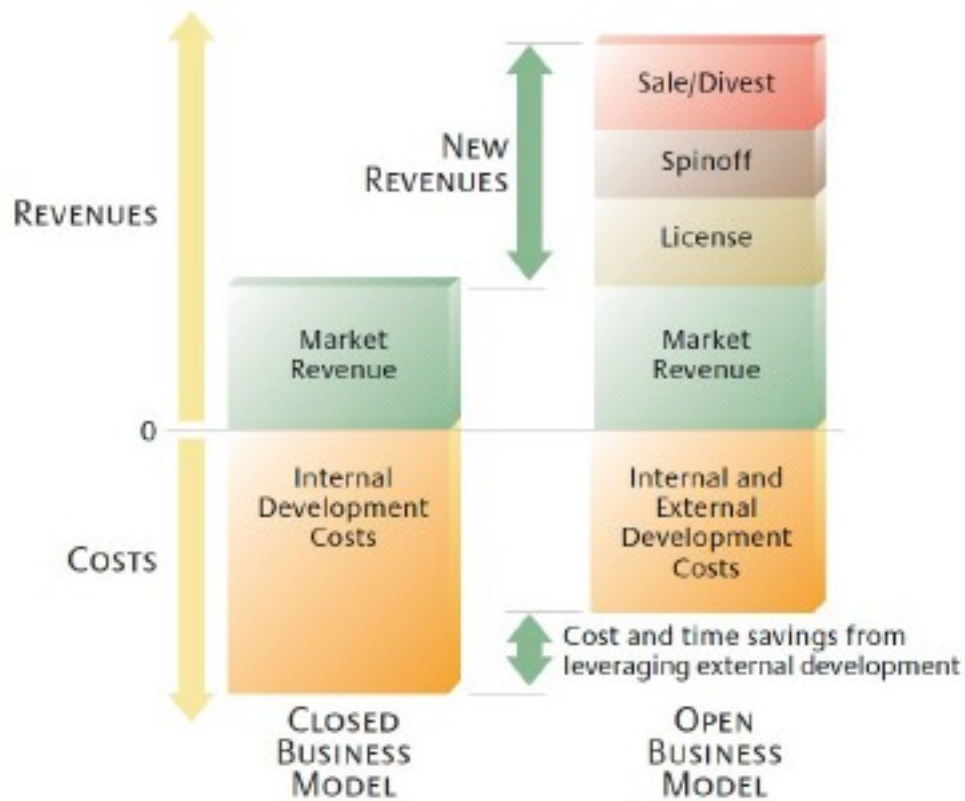
Schutte, Corne; Marais, Stephan (2010). "The Development of Open Innovation Models to Assist the Innovation Process". University of Stellenbosch, South Africa.

Outside and Inside open innovation (zdroj:

Nautilus.cz)

- Outside – in advantages:
 - New radical ideas
 - Invention
 - Solution
 - Technologies
 - Patents and other benefits of cooperation

Inside - out



New incomes are generated by the launching the patents and intellectual property on the market.