3.4. IMPLEMENTING OPEN INNOVATION: TOOLS, METHODS & PROCESSES

OPEN INNOVATION AND BUSINESS MODELS

DARIA PODMETINA, EKATERINA ALBATS, JUSTYNA DĄBROWSKA, ANTERO KUTVONEN

Abstract

A mediocre technology pursued within a great business model may be more valuable than a great technology exploited via a mediocre business model – Henry Chesbrough (2010, p. 354).

Prerequisite	Basic knowledge of open innovation; pre-reading on business model basics.
Objectives of the lecture	The lecture aims at providing an overview of business model innovation and open business models.
Workload	8 h teaching; 16 h self-study (paper reading and group work assignment).
Learning outcomes	**#1:** Business model innovation to recognize, design and analyse innovative business models.
Reading List	Chesbrough, H. W. (2007). Why companies should have open business models. MIT Sloan Management Review, 48(2), 22. Chesbrough, H. (2010). Business model innovation: opportunities and barriers. Long range planning, 43(2), 354-363. Vanhaverbeke, W., & Chesbrough, H. (2014). A classification of open innovation and open business models. New Frontiers in Open Innovation, 50-68.
European Qualifications Framework (EQF) Level	Levels 6, 7.

Lecture Content

Definitions

Business model –*"A business model describes the rationale of how an organization creates, delivers, and captures value"* (Osterwalder & Pigneur, 2009, p.14).

Business model innovation - *"[…] designing a new, or modifying the firm's extant activity system – a process which we refer to as business model innovation […]"* (Amit & Zott, 2010, p. 2).

Open business model - *"An open business model describes the design or architecture of the value creation and value capturing of a focal firm, in which collaborative relationships with the ecosystem are central to explaining the overall logic."* (Weiblen, 2014, p. 57).

"Open business models enable an organization to be more effective in creating as well as capturing value. They help create value by leveraging many more ideas because of their inclusion of a variety of external concepts.They also allow greater value capture by utilizing a firm's key assets, resource or position not only

in the organization's own operations but also in other companies' businesses." (Chesbrough, 2007, p. 22).

Theoretical background

We study business models in the context of open innovation because they are essential to the basic theory of open innovation. Business model thinking keeps you grounded on how value is created, captured and distributed. According to Chesbrough and Bogers' definition from 2014 Open Innovation is a "distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model" (Chesbrough & Bogers, 2014, p. 27). There should be also a clear distinction between the concept of open innovation and open business models, as many practitioners and researchers use these terms interchangeably (Vanhaverbeke & Chesbrough, 2014). These differences are described in this chapter, but to understand the concepts better, the students should be introduced to the basic concept of business model innovation first.

There is evidence that business model innovation is leading as a mode for margin growth compared to product, service, marketplace and operational innovations (Figure 1), indicating that business model innovators can achieve a higher profit growth rate.

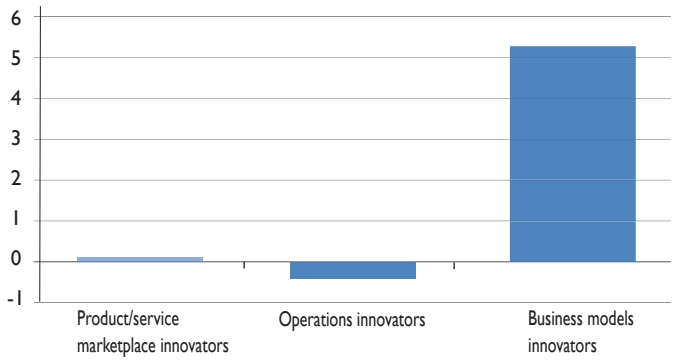

Figure 1. Operating margin growth in excess of competitive peers, compound annual growth rate over five years
Source: IBUSINESS MODEL Global Technology Service, May 2006, CEOs are expanding the innovation horizon: important implications for CIOs avaiable at http://www-07.ibusiness model.com/sg/cioreg/CIO_ Implications.pdf

Business model innovators have also cited benefits (Figure 2) in cost reduction, strategic flexibility, focus and specialization, exploiting new markets and product opportunities rapidly, sharing or reducing the risks and capital investments, and moving from fixed to variable costs.

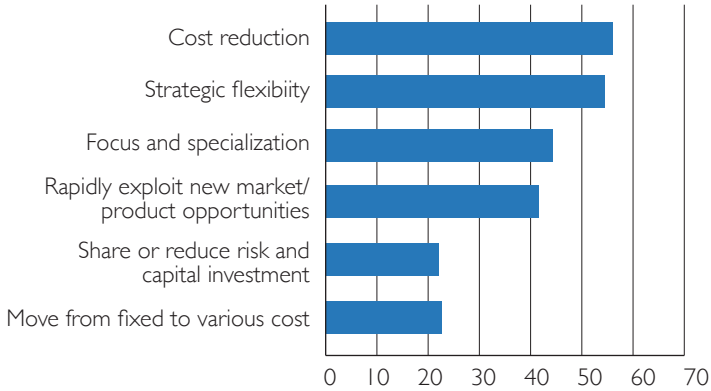

Figure 2. Benefits cited by business model innovators (percentage of respondents)
Source: IBUSINESS MODEL Global Technology Services, Global CEO Study, business model innovation – the new route to competitive avantage, September 2006, avaiable at http://www-935.ibusiness model.com/services/uk/cio/flexible/enflex_wp_business_model_innovation.pdf

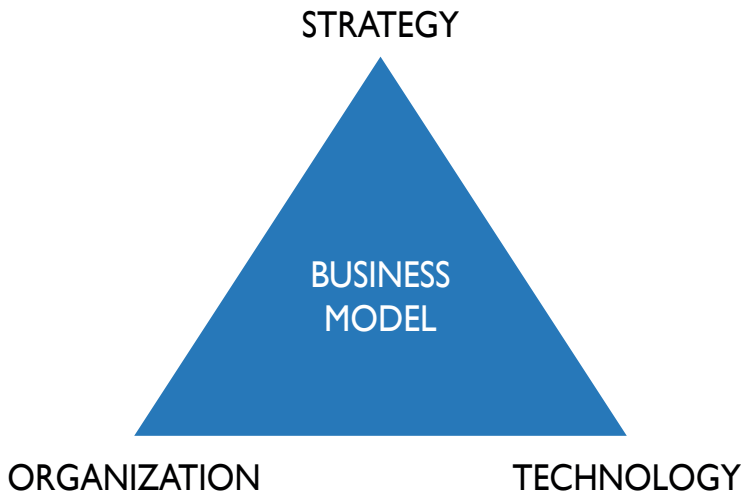

Figure 3. Position of the business model in the company
Source : Osterwalder, 2011

Business models aim at providing a holistic representation of the firm's business, and achieving better communication between various activities. They offer companies a comparison between different strategies (positioning and differentiation) and are the foundation of competitive advantage. While adapting to new situations, business models help in reacting to environmental changes and in seeking for new opportunities.

From the academic point of view, business models have experienced an "academic renaissance" (Zott, Amit & Massa, 2010). Between 1995 and June 2010, 1177 business model articles were published in academic journals. Business model represents a new unit of analysis that focuses on value creation and capture, and is represented in three dominant streams of literature: e-commerce, strategy, and technology and innovation management.

Business models are successful when they serve a customer in a new or more complete way, and contain key elements that competitors are unable to imitate (profitably). Good business models can be made public without a concern for competitive imitation.

A number of studies have tackled different aspects of business models. Amit and Zott (2001) have defined the links between the sources of value creation and business models, Afuah and Tucci (2001) have built a taxonomy of Internet business models, and Osterwalder and Pigneur (2009) have developed the Business Model Canvas tool that brings the different components of the business model together. The business model canvas represents nine building blocks of a business model (Osterwalder & Pigneur, 2010) - the nine elements and their interaction make up the business model (see Figure 4). Building the business model can start from any one of the elements. The starting point can be set in e.g. resources, offering, customers, or finance. The elements are interdependent: choices in one area restrict the choices in other parts of the business model.

Business models are not static: even the best business models need regular critical revision and development. The change may come from change in competition (new entrants, others innovating their business models, imitation), changes in the market environment, customer needs, technological progress, or breakthroughs.

The strength of business model innovation in coping with (or even initiating) change is in simultaneous isolation and linking of the business model elements. Major changes are often limited to even one element. The business model framework interprets the effect of that change for the wider context of the business. Using tools like the Canvas enables companies to carry out and implement radical experiments and scenarios.

The complex environment forces companies to move from traditional approaches of value creation (closed innovation strategy) and value capturing (closed business model) towards an open approach (open innovation strategy and open business model) (Sandulli & Chesbrough, 2009). According to Vanhaverbeke and Chesbrough (2014, p. 52), a business model is a 'framework to link ideas and technologies to valuable economic outcomes' and its two main functions are creating value and capturing a portion of this value.

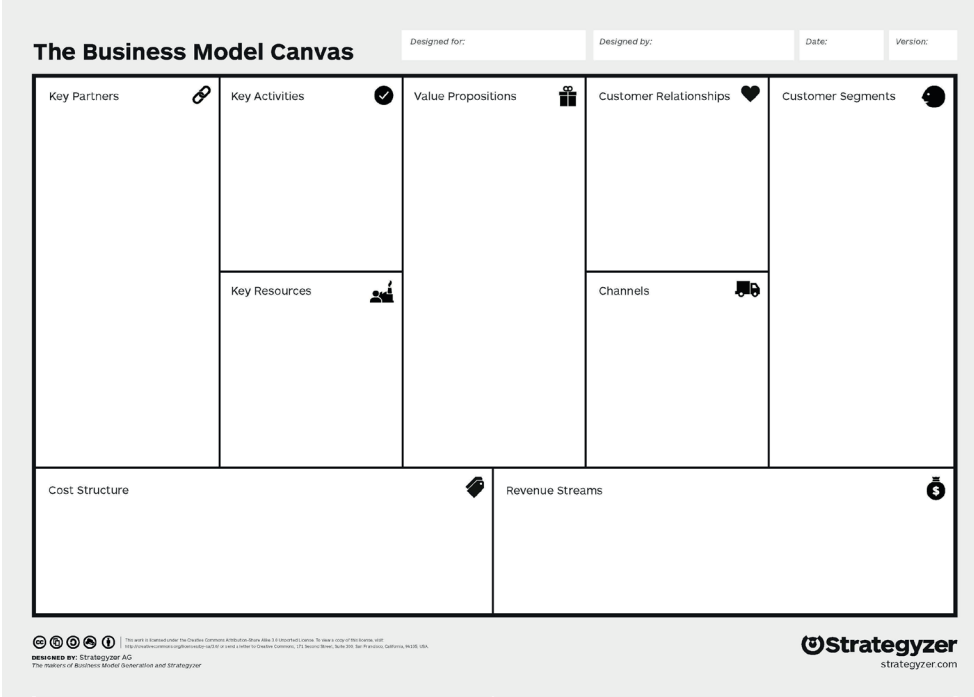

Figure 4. Business Model Canvas
Source: Strategyzer.com https://assets.strategyzer.com/assets/resources/the-business-model-canvas.pdf.

Chesbrough and Rosenbloom (2002) have explored the role of business models for value capturing through the prism of corporate spin-offs, and suggest that a business model should fulfil the following functions:

1. to articulate the value proposition
2. to identify a market segment and revenue mechanisms
3. to define the structure of the value chain that is needed to create and distribute the offerings, as well as complementary assets to support the position in the value chain
4. to estimate the profit potential and cost structure
5. to formulate the competitive strategy
6. to describe the position of the company within the value network.

Apart from the Business Model Canvas, Chesbrough (2007) lists other tools and processes that may help to formulate alternative business models. For example processes related to experimentation (Thomke, 2002), McGrath and Macmillan's (1995) discovery-driven planning, a set of processes related to effectuation (Sarasvathy, 2008) where mapping tools may be used; and a set of processes

related to organizational leadership (Chesbrough, 2007). In addition, Zott and Amit (2010) describe two sets of design parameters that should be taken under consideration (interdependently or not) while designing business models - design elements and design themes. The design elements constitute of contents, structure and governance, and describe the architecture of an activity system. The design themes comprise NICE models (Novelty, Lock-In, Complementarity and Efficiency) that describe the sources of the value creation of the activity system (Zott & Amit, 2010). The NICE characteristics of a business model are:

• Novelty – Newness. Schumpeterian innovation, introducing a new way to organize the business or provide the offering to customers.

• Lock-In – the ability of locking customers into the business model (by introducing major switching costs for customers) and inducing repeat business effectively.

• Complementarity – the business model offers complementarities that facilitate bundling.

• Efficiency – the business model offers outstanding transaction efficiency, it is superior in providing its core function.

For the purpose of this lecture, we focus specifically on open business models and the different classifications of them developed in the literature.

Open business models serve in creating and capturing greater value through the division of labour between partners, sharing complimentary assets, and sharing the risks with external actors, as well as through looking for additional ways to capture value from internal assets. Hence, open business models may lead to improved financial performance because of decreased costs of innovation and generating additional revenues (e.g. by licensing-out or spin-off activities). (Chesbrough, 2006)

Vanhaverbeke and Chesbrough (2014) argue that a company can open a business model, but still apply a closed strategy when it comes to innovation. By combining different types of open innovation activities (outside-in, inside-out open innovation and closed innovation) with two types of business models (open vs closed business model), the authors present a matrix of six different combinations.

1. The first one is a combination of a closed business model and closed innovation strategy – a completely closed innovation model, when companies rely on their own capabilities through the entire cycle: from idea generation to marketing and after sales services.

2. The second type of model is called unused knowledge used by others, and implies a combination of a closed business model and inside-out open innovation strategy, when the innovation has been developed internally and then sold or licenced to others.

3. The third type, the use of others' knowledge to develop a new offering is a combination of

outside-in open innovation with a stand-alone business model, when the company is searching for external knowledge, ideas or technologies to be used within its own, closed business model.

4. The fourth strategy is a combination of the closed innovation approach with an open business model - a search for assets owned by others to develop a new business model. This approach is used when the company is capable of developing new ideas internally, but requires an external input in capturing its value.

5. The fifth combination is making internal knowledge accessible to others in order to develop a new business model. This is the case where a company does not get direct benefit from its internal knowledge, but opens it up to receive indirect profit. It could be launching a platform for application development (as IBM supported Linux, see Vanhaverbeke & Chesbrough (2014)), where the platform owner gets profit from an open source platform, since it is less costly than own software development.

6. The last strategy type is using others' knowledge to create an own business model – a combination of outside-in open innovation and an open business model. This strategy implies that the company utilizes external knowledge to develop a business model which is linked with other organizations.

Vanhaverbeke and Chesbrough (2014) claim that a majority of the existing studies on open innovation deal with the closed business model, even though inside-out and outside-in open innovation have been studied and compared with closed innovation strategy.

Harbor Research (2014) have done a study on various types of business models for so–called connected products, which demand continuous collaboration and interdependency between various actors. The study presents another six types of business models. The set includes two solo-driven models: an embedded innovator (keeping rather automated processes and attracting partners only to fulfil particular tasks) and a system professional model (leverages service automation to feed diverse needs across product providers). The next two types of business models are partner-driven and include a solutionist (which builds broad support capabilities across the entire lifecycle) and a value chain aggregator model (which still owns the product lifecycle but aims at optimizing interactions across the actors' chain). The third group of business models is open collaboration-driven models, which include a collaborator (which builds collaborations with various actors across delivery chains) and a community business model (which drives value via extensive multi-party systems and collaboration between the public and private actors).

Saebi and Foss (2015) focus specifically on the open business model and define four types of open business models across three dimensions: the level of value co-creation, the type of knowledge flow, and the level of collaboration capability. The first type of the open business model is an efficiency-centric open business model, where the company targets at already developed external knowledge with limited co-creation, relatively unilateral knowledge flow, and relatively simple mechanisms

of collaboration governance (e.g. incentives to encourage external collaboration). The second type is a user-centric open business model, which implies that the company increases the user communities' participation in the value creation, but the knowledge flow is still directed rather outside-in and governance is still rather focused on identifying and integrating external knowledge. In the collaborative open business model the degree of co-creation rises further, the knowledge flow is bidirectional, and the collaborative capabilities require setting a greater focus on mutual knowledge exchange and long-term partnerships. The fourth type, an open platform business model, is extreme in all the three dimensions: the degree of co-creation is the highest, as the platform approach allows the participation of various actors, the knowledge flow is multidirectional between all the various partners, and the collaboration capability requires extreme flexibility and long-term orientation.

A study of Kortmann and Piller (2016) introduces an integrated framework of open business models in extended product life cycles. By distinguishing between three stages of value creation (production, consumption, circulation) and three types of collaboration that may be used to reallocate open innovation activities to external partners (firms/closed business models, alliances, platforms) they present nine different business model archetypes. These archetypes are: maker-platform operator; sharing platform operator; circulation platform operator; co-creating manufacturer; co-creating service provider; recycling alliance; transaction-oriented manufacturer; servitizing manufacturer; rebound manufacturer.

Content-related materials and pedagogical guidelines

To make the lesson more interactive with students and to encourage active participation and group discussion, it is recommended that the course participants will be assigned with compulsory reading before the class starts.

The core suggested reading list is the following:

- Chesbrough, H. W. (2007). Why companies should have open business models. MIT Sloan Management Review, 48(2), 22
- Chesbrough, H. (2010). Business model innovation: opportunities and barriers. Long range planning, 43(2), 354-363.
- Vanhaverbeke, W., & Chesbrough, H. (2014). A classification of open innovation and open business models. New Frontiers in Open Innovation, 50-68.

Depending on the hours available, the list may be extended to additional cases. For example, the course participants may be divided into groups. Each group receives one additional article with the task to prepare a 15-20 minutes Power Point presentation summarizing the article content and its key take-aways, and present it to the class.

An additional reading list for the group assignment:

• Amit, R., & Zott, C. (2001). Value creation in e-business. Strategic management journal, 22(6-7), 493-520.
• Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. Industrial and corporate change, 11(3), 529-555.
• Kortmann, S., & Piller, F. (2016). Open Business Models and Closed-Loop Value Chains. California Management Review, 58(3), 88-108.

The articles listed above contain many company examples that can be used in class.

To introduce the students with the basic idea of the Business Model Canvas, a YouTube video developed by Strategyzer may be used (https://www.youtube.com/watch?v=QoAOzMTLP5s).

Learning exercises

Activity 1. The teacher may start the lecture with questions: What is a business model and business model innovation? What role does the business model play in innovation?

Activity 2. Based on the pre-assigned readings, students make a 15-20 minute presentation summarizing the articles. After each presentation, the teacher asks the classroom to think of examples of other companies that use similar business models to capture and create value.

Activity 3. The teacher may divide the course participants into two groups: open business model optimists and open business model pessimists. Each group has 10-15 minutes to brainstorm the pros/cons of why companies should/should not have open business models. After that, the teacher should facilitate a 30-minute debate on this topic between the two groups. The activity may be modified by providing a concrete example of a known company in the region where the course is held or related to the course industry.

Evaluation questions

The participants may be evaluated on the basis of class participation, group discussion, group presentation, and an essay on lessons learnt.

Group work examples

Activity 4. Besides the group activities described above, the course participants may have additional task to develop a business model for a particular company's offering by using the Business Model Canvas.

Activity 5. In groups, students brainstorm on the question: How can firms open up their business model to utilize partnerships and collaboration in creating and capturing new value? The groups may be divided into subthemes and brainstorm on the same question for different types of firms – e. g. for incumbents, start-ups, large firms, or SMEs.

KEY TAKE-AWAYS

• Opening up the innovative process is a big change for many firms' business models.
• Business model thinking can help make sense for whether opening up is the correct move and how it will affect the business holistically.
• Many of the legendary" superstar" companies have both business model innovation and open innovation behind their success.

References

• Afuah, A., & Tucci, C. L. (2001). Internet Business Models and Strategies. McGraw-Hill International Editions.
• Amit, R., & Zott, C. (2001). Value creation in e-business. Strategic management journal, 22(6-7), 493-520.
• Chesbrough, H., & Bogers, M. (2014). Explicating open innovation: Clarifying an emerging paradigm for understanding innovation. H. Chesbrough, W. Vanhaverbeke & J. West (Eds.), New Frontiers in open Innovation, 3-28.
• Chesbrough, H. (2010). Business model innovation: opportunities and barriers. Long range planning, 43(2), 354-363.
• Chesbrough, H. (2006). Open Business Models: How to Thrive in the New Innovation Landscape. Boston, MA: Harvard Business School Press.
• Chesbrough, H. (2007). Why companies should have open business models. MIT Sloan Management Review, 48(2), 22
• Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. Industrial and corporate change, 11(3), 529-555.
• Foss, N. J., & Saebi, T. (Eds.). (2015). Business Model Innovation: The Organizational Dimension. OUP Oxford.
• Kortmann, S., & Piller, F. (2016). Open Business Models and Closed-Loop Value Chains. California Management Review, 58(3), 88-108.
• McGrath, R. G., & MacMillan, I. C. (1995). Discovery driven planning. Philadelphia: Wharton School, Snider Entrepreneurial Center.

• Osterwalder, A., & Pigneur, Y. (2009). Business Model Creation. Modderman Drukwerk: Amsterdam, The Netherlands.
• Sandulli, F. D., & Chesbrough, H. W. (2009). The two faces of open business models. SSRN working paper series (no. 1325682), 1–25.
• Sarasvathy, S., & Dew, N. (2008). Effectuation and Over-Trust: Debating Goel and Karri. Entrepreneurship Theory and Practice, 32(4), 727-737.
• Thomke, S. H. (2003). Experimentation matters: unlocking the potential of new technologies for innovation. Harvard Business Press.
• Vanhaverbeke, W., & Chesbrough, H. (2014). A classification of open innovation and open business models. New Frontiers in Open Innovation, 50-68.
• Weiblen, T. (2014). The Open Business Model: Understanding an Emerging Concept. Journal of Multi Business Model Innovation and Technology, 2(1), 35–66.
• Zott, C., & Amit, R. (2010). Business model design: an activity system perspective. Long range planning, 43(2), 216-226.
• Zott, C., Amit, R., & Massa, L. (2011). The Business Model: Recent Developments and Future Research. Journal of Management, 37(4), 1019–1042.