



This is an electronic reprint of the original article. This reprint may differ from the original in pagination and typographic detail.

Please cite the original version: Nevmerzhitskaya, J. (2019) Can Open Innovation offer a new perspectives for development of ecosystemic business models? In Proceedings of the OpenLivingLab Days Conference. Co-creating Innovation: Scaling-up from Local to Global. Brussels: European Network of Living Labs, 459-465.

URI: <https://openlivinglabdays.com/2019/08/16/conference-proceedings/>

Can Open Innovation offer new perspectives for the development of ecosystemic business models?

Julia Nevmerzhitskaya¹

¹Laurea University of Applied Sciences, Finland

Category: Doctoral Papers

Disciplines: Marketing
PhD starting date: 2004
PhD Supervisor: Martti Laaksonen

Abstract

This paper describes initial considerations in a dissertation research on how to co-create ecosystemic business models based on shared resources and value in an open innovation. There are two main research areas that address the topic of ecosystemic business models: open innovation and innovation management, in respect of innovation ecosystems, and business model development, in respect of business ecosystems. This research will be an attempt to bring two areas together by using multi-stakeholder perspective as the bridge between the two. The proposed approach is to use service design as a methodological choice for multi-stakeholder business model development as a core of open innovation.

Keywords: *open innovation, ecosystemic business model, business model development, innovation ecosystem.*

1 Introduction

Business model is a concept used to describe the way a company creates value (e.g. Chesbrough, 2010). In practical terms business models refer to the way

companies generate revenue. In the academic literature business models have traditionally been described as a business logic for customer value creation process (e.g. Vargo and Lusch, 2008). This business logic sees value creation process as a linear value chain, in which customer value is created inside an organization through its' own activities, adding to the suppliers' resources which serve as an input. While no unified definition of a business model exist, many scholars see business model as a firm-specific concept. For example, Osterwalder et al. (2005, 7) define a business model as "a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm". A lot of research has been dedicated to the elements of business models, which are combined in so-called business model canvases. Probably the most known business model canvases are the Business Model Canvas by Osterwalder and Pigneur (2010), Service business model canvas (Zolnowski and Böhmman, 2014) and Service logic business model canvas (Ojasalo and Ojasalo, 2015). They are based on what Chesbrough and Rosenbloom (2002), describe as business model functions:

- Value proposition (i.e., the value created for users by an offering)
- Market segment(s)
- Revenue generation mechanism
- Structure of the value chain
- The cost structure and profit potential (given value proposition and value chain structure)
- The position of the firm within the value network linking suppliers and customers
- The competitive strategy by which the innovating firm will gain and hold advantage over rivals.

The service business model canvas (SBMC) by Zolowski and Böhmman is based on the BMC and concentrates on the co-creation and customer value creation process. Ojasalo and Ojasalo (2015) added a service- dominant perspective to the business model canvas, addressing above functions not only from a company point of view, but also from a consumer perspective.

While available business model research offers a number of tools such as business model canvases to help companies develop and manage their business models, they all are centered on value creation and capture within one company, and represent business models centered around one firm's business logic. At the same time the challenges we face globally (such as climate change, healthcare, immigration) provide a significant opportunity to create new shared value through innovative partnerships beyond the individual business model. Such partnerships can form business systems, or ecosystems, which have the potential to provide significant economic benefits not only for the companies, but for a broader society. In addition, digitalization and rapid development of digital technologies, as well as their connection to a physical world, created new conditions for highly interconnected business environments (Livari et al, 2016). The authors argue that traditional firm-centered models are not suitable for addressing new types of interconnected environments based on IoT, and thus "joint efforts for synergistic value creation and capture between all stakeholders" are needed.

One trend in which joint or shared value creation among different stakeholders is a must is Circular Economy (CE) which is one of the complex problems focused on optimizing resource-use and minimising the creation of waste across different value chains. Importantly, CE is not about one company changing one product, it's about all the interconnected companies that form infrastructure and economy, coming together and re- thinking the operating system itself (Ellen MacArthur, 2015). Thus, in developing and testing CE solutions, diversity and multi-stakeholder collaboration is built-in as a compulsory requirement, which makes it an excellent case example for describing and developing ecosystemic business models.

Preliminary objectives of the research are the following:

- to define the role of multi-stakeholder engagement in developing ecosystemic business models.
- to investigate dynamics of open innovation.
- to develop processes (e.g. facilitation of co-creation) and tools (e.g. ecosystemic business model canvas) to help companies in transition towards ecosystemic businesses.

In this paper, the theoretical context of ecosystemic business models is shortly presented. Definitions are given to serve as the starting point for analysis, and the initial framework for connecting innovations and business models in an ecosystem is presented. This initial framework serves as the basis for discussion and further development during the dissertation process.

2 Theoretical foundations of ecosystemic thinking

Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology' (Chesbrough, 2003, p. XXIV). Chesbrough's (2003) definition has developed over the years. In 2006 (p.1), he states that 'open innovation is the use of purposive inflows and out-flows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively'. He also noted that OI is becoming wide-ranging; 'the future of open innovation will be more extensive, more collaborative, and more engaged with a wider variety of participants. (Chesbrough, 2010). Open innovation (Chesbrough, 2006) approach provides a generic framework for involving end-users (a.k.a. customers) and other relevant key stakeholder in the collaborative innovation process. Nowadays innovation processes have become more and more of a joint organizational effort in which the partner section plays a critical role. Importantly, partners within an open innovation network should provide the resources and capabilities which your own organization lacks in order to gain the suggested positive effects of collaborating and additional capabilities. Open Innovation is based on quadruple helix model of innovation where civil society joins with business, academia, and government sectors to drive changes far beyond the scope of what any one organization can do on their own.

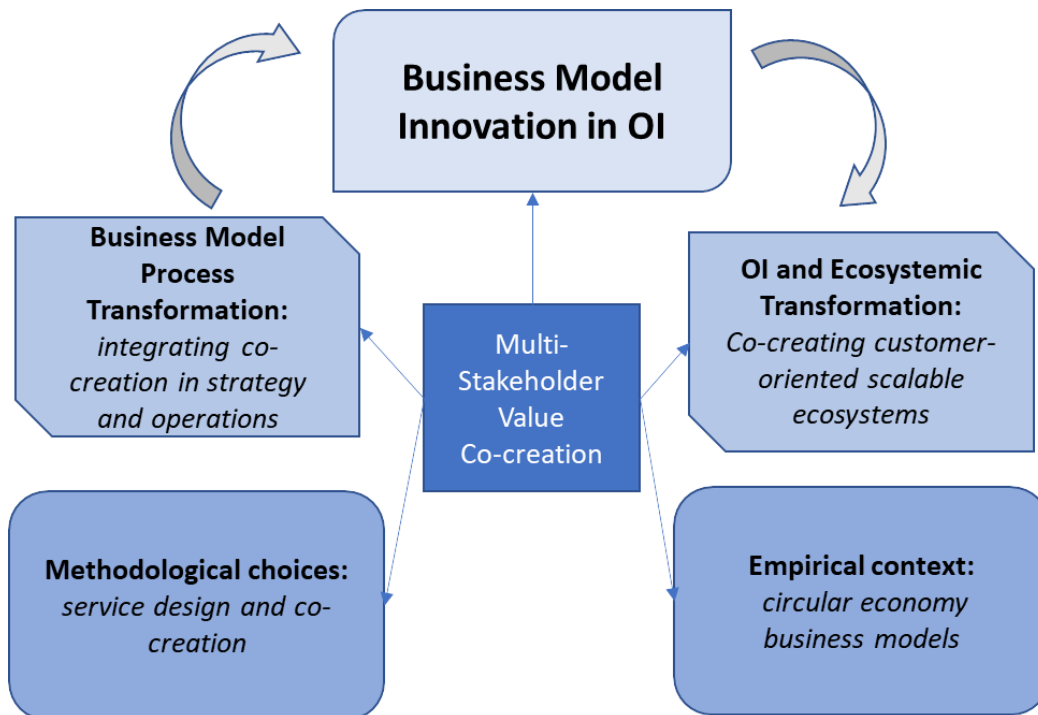
Ecosystemic innovations: An innovation is considered 'ecosystemic' when its purpose is to change the fundamental nature of society; for instance, to deliver on major transitions concerning ecological sustainability. Importantly, partners within an open innovation network, that can also be described as an 'innovation ecosystem' should provide the resources and capabilities which their own organization lacks in order to gain the suggested positive effects of collaborating and additional capabilities. While Open Innovation approach allows companies to move from traditional closed RD activities towards more open collaborative processes, it is still focused mainly on one company's ability to innovate. True open innovation process, in which shared value is co-created by a large number of stakeholders involved, is often referred to as Open Innovation 2.0. Open Innovation 2.0 (OI2) is a new paradigm based on principles of integrated collaboration, co-created shared value, cultivated innovation ecosystems, unleashed exponential technologies, and extraordinarily rapid adoption. (Curley, Salmelin; 2013). Open Innovation 2.0 is about shared value creation in networks, or ecosystems.

Open Innovation 2.0 allows companies to develop ecosystemic business models, which focus both on the firm's method of creating and capturing value as well as any part of the ecosystem's method of creating and capturing value to the ecosystem. In Open Innovation 2.0, innovation happens in ecosystems or networks that go far beyond traditional organizational boundaries and include organizations in a value chain, individuals/citizens, academia, and governments collaborating with one another. Together such ecosystems can create value in a way no single organization could do by itself. In other words, OI2 allows for development of collaborative business models which are ecosystem-centered as opposed to firm-centered.

This paper is based on the following preliminary conceptual framework of multi-stakeholder value creation in ecosystemic business models shown in Figure 1.

Business model innovation (Chesbrough, 2010) is about defining and designing new models for capturing business value. In the context of this research proposal, the ecosystemic business models are used to investigate collaborative business models of companies and other organizations. The ecosystems thinking is often connected to the concept of open innovation and business networks but has no clear definition. Valkokari (2015) distinguishes between business ecosystems, innovation ecosystems, and knowledge ecosystems. Business ecosystems focus on customer value creation. Knowledge ecosystems focus on the generation of new knowledge, and innovation ecosystems occur as an integrating mechanism between the exploration of new knowledge and its exploitation for value co-creation in business ecosystems. Both the relationship and dynamics of these three ecosystems are an important research theme, and new tools are needed to enable cross-ecosystem models (Valkokari, 2015).

Figure 1. Conceptual Framework



3 Research methodology

The proposed methodology is grounded on a constructive action research paradigm (Cassel and Johnson, 2006) in context of a case study (Yin, 1994). Constructive action research method aims to develop a solution to a practically relevant problem by applying theoretical knowledge and demonstrating the functioning and innovativeness of the suggested solution in real life (Jaatinen and Lavikka, 2008). Action research will be carried out in a number of Living Labs. Living Lab approach is based on collaboration, social learning and management sense-making theories, and open innovation and co-creation where multidisciplinary and multicultural teams co-develop user-centered solutions for a real-life challenge. The LL adopts a participatory oriented approach in which complex socio-technical systems can be addressed based on the practices of co-creation and co-production. Living Lab research has emerged as an answer to complex societal challenges and has significant potential to promote both open innovation and co-creation of products and services.

In this study, Circular Economy (CE) as a complex problem is providing a thematic framework for a practically relevant problem noteworthy to be solved. A project supported by the European Commission's H2020 circular economy programme including 17 partners across 8 EU counties and having a total of 7.2 MEUR fund is providing the challenges and testing environment for the concept development. The project involves a diverse set of industries including 1) recycling waste of

electrical and electronic equipment (WEEE), 2) LED light industry, 3) micro farming and 4) meat supply chain.

The research milestones will follow a framework originally proposed by Kasanen et. al. (1993) and refined by Oyegoke (2011) as follows:

1. Justify the practical relevance of the proposed problem (i.e. CE as complex problem which requires multi-stakeholder value co-creation).
2. Present the theoretical connection (i.e. open innovation and ecosystemic business models as presented in section 2 covering theoretical framework).
3. Develop the solution (i.e. ecosystemic business models in OI).
4. Demonstrate that the suggested solution is working (i.e. circular economy business models).
5. Present the research contribution including applicability of the solution.

4 Conclusions

This paper presents initial considerations in understanding ecosystemic business models in open innovation context. It is argued that today business models are centred around value-creation of a company in a supply chain, and do not address collaborative value co-creation in complex societal cases, such as for example circular economy development. In these cases the value is co-created and shared among a wide range of stakeholders, going beyond the value chain and including actors from quadruple helix. To understand value co-creation in these cases, new ecosystemic business models are needed.

References

- Cassell, C. & Johnson, P., (2006), Action research: Explaining the diversity, Human Relations; Vol. 59, 6; 783-814.
- Chesbrough, H., and 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
- Chesbrough, H.W., (2006). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business Press.
- Chesbrough, H. (2010) *Business Model Innovation: Opportunities and Barriers*. *Long Range Planning*, Vol. 43, No. 2-3, pp. 354-363.
- Curley, Martin & Salmelin, Bror (2013) *Open Innovation 2.0: A New Paradigm*.
- Iivari, M. M., Ahokangas, P., Komi, M., Tihinen, M., Valtanen, K. (2016). *Toward Ecosystemic Business Models in the Context of Industrial Internet*. *Journal of Business Models* Vol. 4, No. 2, pp. 42- 59
- Jaatinen, M., Lavikka, R., (2008), *Common Understanding as a Basis for Coordination*, *Corporate Communications: An International Journal*, Vol. 13 No2., pp.147-167

- Kasanen, E., & Lukka, K. (1993). The constructive approach in management accounting research. *Journal of management accounting research*, (5), pp. 243-264.
- Osterwalder, A., Pigneur, Y., and Tucci, C.L. (2005) Clarifying business models: origins, present, and future of the concept. *Communications of the Association for Information Systems*, Vol. 16, No. 1, pp. 1–25.
- Ojasalo, K., & Ojasalo, J. (2015). Adapting business model thinking to service logic: an empirical study on developing a service design tool. *THE NORDIC SCHOOL*, 309.
- Oyegoke, A., 2011. The constructive research approach in project management research. *International Journal of Managing Projects in Business*, 4(4), pp.573-595.
- Schuurman, D., De Marez, L., & Ballon, P. (2015). Living Labs: a systematic literature review. *Open Living Lab Days 2015, Proceedings*. Presented at the Open Living Lab Days 2015.
- Valkokari, Katri (2015). Business, Innovation, and Knowledge Ecosystems: How They Differ and How to Survive and Thrive within Them. *Technology Innovation Management Review*, August 2015 (Volume 5, Issue 8, pp.17-24).
- Vargo, S.L. and Lusch, R.F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of Marketing Science*, 36, 1-10.
- Zolnowski, A., Weiß, C., & Bohmann, T. (2014, January). Representing Service Business Models with the Service Business Model Canvas -The Case of a Mobile Payment Service in the Retail Industry. In *system sciences (HICSS)*, 2014 47th Hawaii International Conference on (pp. 718 -727). IEEE.
- Yin, R., (1994), *Case study research: Design and methods* (2nd ed.), Sage, Newbury Park, CA.