

INNOVATION EDUCATION RELOADED

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NURTURING
SKILLS FOR
THE FUTURE

THE OPEN INNOVATION
HANDBOOK

ANNE-LAURE MENTION, ARIE P. NAGEL,
JOACHIM HAFKESBRINK, JUSTYNA DĄBROWSKA

INNOVATION EDUCATION RELOADED: NURTURING SKILLS FOR THE FUTURE

THE OPEN INNOVATION HANDBOOK



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FOREWORD

You are cordially welcome, whether you are an established or potential new member of the open innovation fun club! You are reading a gem of the OI-Net project, a joint effort between numerous partner institutions and individual experts for the creation of a European curriculum on Open Innovation.

Since 2003, when Prof. Henry Chesbrough published the book on Open Innovation, we have been; discussing the benefits and potential limitations in academia; delivering important messages to both large companies and SMEs by consultants, and raising interest of governments and public organizations. However, academia has not been developing much on creating a curriculum on open innovation. This book is a potential solution to create a comprehensive one.

Ingredients for this book were cooked in Lappeenranta in 2012, when a team of open innovation fans initiated a European project on the topic. It has been a long five year journey, but for sure worth taking.

Based on the experiences of an extensive network of experts on teaching and consulting innovation management, opinions from both academics and companies and intensive collaboration among project partners, this book provides answers to why and how open innovation matters, with an introduction of envisioning the future.

This was mainly a European approach, but we believe it is also beneficial to non-Europeans to read. Why! Because if you are not open, you are closed! It was said properly (on binary mode one or zero) in one of the 80s blockbuster movies by an investment banker: "if you are not inside, you are outside". The same applies here.

I sincerely thank all those who were involved in the OI-Net project, authors and especially editors of this book; Anne-Laure Mention, Arie P. Nagel, Joachim Hafkesbrink and Justyna Dabrowska! You made an excellent and innovative work.

December 2016, Kouvola, Finland
Open Innovately Yours,

Marko Torkkeli
Professor, OI-Net project coordinator
Lappeenranta University of Technology (project lead partner)

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3.5 SKETCHING THE NEW FRONTIERS OF OPEN INNOVATION

CIVIC OPEN INNOVATION

ELENA CASPRINI, ALBERTO DI MININ

ABSTRACT

This module looks at how governments and governmental institutions use open innovation strategies in public-related issues (e.g. mobility, energy and security). The module is divided into four parts. The first part is about defining open civic innovation. The second part looks at the role of governments and citizens in civic open innovation. The third part looks at toolbox. Finally, the fourth part presents examples from the world.



Prerequisite	Basic knowledge of Innovation Policy, Public Policy and Public Administration is preferred.
Objective of the lecture	This lecture aims at providing an overview of what we mean with civic open innovation.
Workload	8 h teaching (2hr/topic); 16 h self-study (paper readings and project work assignment)
Learning outcomes	LO #69: To identify external sources of innovation; To identify intervention strategies leading to successful services and appropriate responses to citizens in general.
Reading List	Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. <i>Business Horizons</i> , 57(3), 391–400. Further readings are provided below.
European Qualifications Framework (EQF) Level	Levels 6, 7.

LECTURE CONTENT

The aim of this lecture is to provide an overview of civic open innovation. In particular, it looks at the role of the government and citizens in public sector-related activities. The lecture will cover four main topics: defining civic open innovation, the role of governments and citizens in civic open innovation, a toolbox for civic open innovation, and examples from the world.

The core suggested reading list is:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Chesbrough, H. & Di Minin, A. (2014). Open Social Innovation, in Chesbrough, H., Vanhaverbeke, W. and West, J. (eds.), *New Frontiers in Open Innovation*, Oxford University Press, 169-190).
- Lee, S. M., Hwang, T., & Donghyun, C. (2012). Open innovation in the public sector of leading countries. *Management Decision*, 50(1), 147–162.
- Mergel, I. (2015). Opening government: designing open innovation processes to collaborate with external problem solvers. *Social Science Computer Review*, 33(5), 599–612.

Depending on the hours available, each topic may be treated as a separate lecture (2 hr) or may be merged.

DEFINING CIVIC OPEN INNOVATION

The content of this module will (un)cover the definition of civic open innovation. There is no single accepted definition of civic open innovation.

Civic open innovation may be considered as a part of social open innovation (Chesbrough and Di Minin, 2014). Social open innovation is in fact defined as “the application of either inbound or outbound open innovation strategies, along with innovations in the associated business model of the organization, to social challenges” (Chesbrough and Di Minin, 2014:170) and it can be applied by organizations operating in the public sector and in the non-profit sector (ibid.). Civic open innovation is applied specifically by governments and governmental institutions, i.e. institutions supported and managed by the government. In particular, civic open innovation has been investigated with respect to cities (Almirall et al. 2014).

Civic open innovation involves multiple actors (Almirall et al. 2014; Feller et al., 2011): city departments, citizens and developers; companies that use open data in their applications, consultants, policy makers, venture capitalists, and intermediaries (Lee, 2015). In particular, attention has been paid to the role of citizens. Citizens may be integrated in the public sector in different forms. The paper of Hilgers and Ihl (2010) provides several examples of what the existing literature has termed as “collaborative public management”, “citizen engagement”, “wiki government”, “coproduction with public sector clients” or “open government”. In particular, as Mergel (2015:601) says, “OI is seen as part of the open government initiative to move from a closed innovation paradigm that relies on preselected vendors and contractors to an OI paradigm encouraging citizens to increase their participation and collaboration with government”.

Civic Open Innovation may run projects in different domains, such as administrative and political domains as well as urban planning, mobility, energy and education (Arnold and Barth, 2012; Feller et al., 2011; Katsonis and Botros, 2015; Lee et al., 2012).

Civic Open Innovation has taken advantage of digital technology, which has improved “the efficiency and productivity of government agencies and allow citizens to transact with government anytime, anywhere. It can also deepen the democratic process, empowering citizens to participate in policy formulation” (Katsonis and Botros, 2015:42).

The teacher may use the following sources for an overview:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Arnold, M., & Barth, V. (2012). Open innovation in urban energy systems. *Energy Efficiency*, 5(3), 351–364.
- Chesbrough, H. and Di Minin, A. (2014). Open Social Innovation. In Chesbrough, H., Vanhaverbeke, W. & West, J. (Eds.), *New Frontiers in Open Innovation*. Oxford: Oxford University Press.
- Feller, J., Finnegan, P. and Nilsson, O. (2011). Open innovation and public administration: transformational typologies and business model impacts, *European Journal of Information Systems*, 20, 358-374.
- Hilgers, D. and Ihl, C. (2010). Citizensourcing: applying the concept of open innovation to the public sector. *The International Journal of Public Participation*, 4(1): 67-88.
- Katsonis, M. and Botros, A. (2015). Digital government: a primer and professional perspectives. *Australian Journal of Public Administration*, 74(1): 42-52.
- Lee, S.M., Hwang, T. and Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decisions*, 50(1), 147-162.
- Lee, M. (2015), Open Innovation in the Public Sector. *Open Cities - Open Innovation and Business Models in the Public Sector*, 4(stance, n. 2., pp. 14-19 Available at: <http://2e11d3203107c828e67d-12a4d9800e4c80a12ff7402fd33c8609.r65.cf3.rackcdn.com/MagazineN3-a5.pdf>.
- Mergel I. (2015). Opening government: designing open innovation processes to collaborate with external problem solvers. *Social Science Computer Review*, 33(5), 599-612.

Activity 1. Due to the blurred nature of the term, the teacher may ask the students to give a definition of their own. What is civic open innovation? Open questions for classroom brainstorming: what is meant by civic open innovation? The teacher could generate a list with the definitions provided and look for similarities and differences in order to identify the dimensions of civic open innovation.

Highlights

- The lecture provides a definition of civic open innovation.
- The lecture identifies the actors involved in civic open innovation.

THE ROLE OF GOVERNMENTS AND CITIZENS IN CIVIC OPEN INNOVATION

This module aims at answering the question of what is the role of governments and citizens in civic open innovation. Citizens represent a great source of knowledge (Arnold and Barth, 2012; Lee et al., 2012), albeit they may not always have the due knowledge or expertise to contribute to public sector projects. Governments are increasingly opening up their boundaries via, on one side, improving citizens' engagement in their activities, and on the other side, giving them (and external partners) access to their data (Almirall et al., 2014; Eskelinen et al., 2015). Governments' aims are mainly linked to gathering citizens' knowledge to improve public administration, obtaining citizens' support in daily public administrative tasks as citizen developers and in political decision processes (Eskelinen et al., 2015; Hilgers and Ihl, 2010; Wijnhoven et al., 2015). These objectives are usually referred to as citizen ideation and innovation, citizen sourcing, and collaborative democracy (Hilgers and Ihl, 2010; Wijnhoven et al., 2015).

The teacher may use the following sources for an overview:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Arnold, M., & Barth, V. (2012). Open innovation in urban energy systems. *Energy Efficiency*, 5(3), 351–364.
- Eskelinen, J., Garcia Robles, A., Lindy, I., Marsh, J., Muentz-Kunigami, A. (2015), Citizen-Driven Innovation. A Guidebook for city majors and public administrators. World Bank and ENoLL.
- Hilgers, D. and Ihl, C. (2010). Citizensourcing: applying the concept of open innovation to the public sector. *The International Journal of Public Participation*, 4(1): 67-88.
- Lee, S.M., Hwang, T. and Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decisions*, 50(1), 147-162.
- Wijnhoven, F., Ehrenhard, M., & Kuhn, J. (2015). Open government objectives and participation motivations. *Government Information Quarterly*, 32, 30–42.

Activity 2. The students may identify which are the characteristics that citizens may possess for contributing to pursuing civic open innovation. After having selected a specific context (e.g. school, healthcare, etc.), the students might list the pros and cons of a specific group of citizens, which may serve as a baseline for delineating who should be involved in civic open innovation and which are the mechanisms to be used for involving them.

Highlights

- The lecture focuses on the role of citizens and governments in civic open innovation.
- The lecture provides examples on how to involve citizens.

TOOLBOX FOR CIVIC OPEN INNOVATION

This module aims at providing an overview on the tools and approaches that governments may use for pursuing civic open innovation and motivating the students in finding new tools and approaches. Examples as developed and described in existing literature are hackatons, urban labs, crowdsourcing (Almirall et al., 2014; Eskelinen et al., 2015; Lee et al., 2012; Seltzer and Mahmoudi, 2013) as well as more conscious use of social media (Stamati et al., 2015) and online platforms (Mergel & Desouza, 2013; Mergel, 2015). For example, Stamati et al. (2015) provide an overview of the role of social media in government, describing the properties of social media that afford openness and accountability.

The teacher may use the following sources for an overview:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Eskelinen, J., Garcia Robles, A., Lindy, I., Marsh, J., Munte-Kunigami, A. (2015), Citizen-Driven Innovation. A Guidebook for city majors and public administrators. World Bank and ENoLL.
- Lee, S.M., Hwang, T. and Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decisions*, 50(1), 147-162.
- Mergel, I. (2015). Opening government: designing open innovation processes to collaborate with external problem solvers. *Social Science Computer Review*, 33(5), 599–612.
- Mergel, I., & Desouza, K. C. (2013). Implementing Open Innovation in the Public Sector: The Case of Challenge.gov. *Public Administration Review*, 73(6), 882–890.
- Seltzer, E. & Mahmoudi, D. (2013). Citizen participation, open innovation, and crowdsourcing: challenges and opportunities for planning. *Journal of Planning Literature*, 28(1), 3-18.
- Stamati, T., Papadopoulos, T., & Anagnostopoulos, D. (2015). Social media for openness and accountability in the public sector: cases in the Greek context. *Government Information Quarterly*, 32, 12–29.

Activity 3. In groups, ask the students to develop a specific program to solve a specific problem.

Option 1. The problem is identified by the students themselves or proposed by the teacher. Ask the students to find a list of examples of civic open innovation tools and approaches and classify them

in terms of the dimensions developed in (1) and (2).

Option 2. The problem is suggested by a third party (such as the speaker of the seminar). Ask the students to find a list of examples of civic open innovation tools and approaches and classify them in terms of the dimensions developed in (1) and (2).

Highlights

- The lecture focuses on the tools governments may use to pursue civic open innovation.
- A specific role is played by crowdsourcing.
- Interesting solutions may come from the social media.

EXAMPLES FROM THE WORLD

This module aims at providing an in-depth case description via analysing the tools/approaches used, the stakeholders involved, the benefits and the costs of having implemented such kind of tools/approaches. Several empirical examples will be provided, with the aim of providing insights into how civic open innovation has been implemented. For example, Stamati et al. (2015) describe five initiatives taken by Greece, while Almirall et al. (2014) describe civic innovation approaches taken in several cities. Similar to Wijnhoven et al. (2015), Hilgers and Ihl (2010) provide an additional example of successful citizen collaboration and participation in the public sector. Lee et al. (2012) describe some open innovation practices applied in the USA, Canada, Denmark, the Netherlands, the UK and Japan, among others.

The teacher may use online resources as well as the cases in:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Hilgers, D. and Ihl, C. (2010). Citizensourcing: applying the concept of open innovation to the public sector. *The International Journal of Public Participation*, 4(1): 67-88.
- Lee, S.M., Hwang, T. and Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decisions*, 50(1), 147-162.
- Stamati, T., Papadopoulou, T., & Anagnostopoulos, D. (2015). Social media for openness and accountability in the public sector: cases in the Greek context. *Government Information Quarterly*, 32, 12–29.
- Wijnhoven, F., Ehrenhard, M., & Kuhn, J. (2015). Open government objectives and participation motivations. *Government Information Quarterly*, 32, 30–42.

Activity 4

Option 1. Ask the class (or a single student) to draw a specific example. Ask each group (student) to present its/his/her example. These examples may be local or not.

Option 2. Ask the class to compare open civic innovation practices across countries. This activity may require a lot of time, but it would be useful in order to identify similarities/differences across countries (e.g. you can compare cases of civic open innovation in developed and developing countries).

KEY TAKE-AWAYS

- Within the open innovation field of research, civic open innovation represents an emerging topic of interest;
- Civic open innovation refers to open innovation applied specifically by governments and governmental institutions (institutions supported and managed by the government);
- Civic open innovation has mainly been studied with respect to cities, and it focuses mainly on the role of governments and citizens;
- This topic might be very appealing for students, as civic open innovation may be evident in local examples, resulting in good material for project work;
- The topic may also be of interest to local authorities looking for new ways of finding ideas for solving local problems.

PEDAGOGICAL GUIDELINES

The lecture leverages on a frontal lecture and interactive activities. During the hours of frontal teaching, the teacher will remind the students of basic concepts (such as "open innovation") in order to reactivate previous knowledge and then introduce the peculiarities of civic open innovation through brainstorming and round table discussion, as well as individual/group activities and presentations.

Guest lecturers may be invited in order to present problems to be solved and/or solutions they have developed.

The students will be divided into groups in order to solve specific problems and provide (existing) civic open innovation -related solutions. The problems may be real problems faced by the local municipality (and explained during the guest lectures), as well as new problems identified by a single group.

Online sources may be used in order to collect and be inspired by examples.

EVALUATION QUESTIONS

The lecture may contain self-assessment questions for each student.

The teacher may evaluate students by two main methods:

1. Written exam, based on the arguments presented in class;
2. Project work, based on individual and/or group project work made either in class or outside the class. An example for a project work may be (i) finding examples of civic open innovation in one's own country, (ii) analysing whether they work or not and why, and also (iii) proposing possible solutions.

OTHER ACTIVITIES

Activity 5. Students are consultants of the national government. Ask the students to search for information about a specific governmental programme of open innovation. The first task of the working group is to create a map of civic open innovation via:

- a. defining the problem,
- b. defining the involved actors,
- c. identifying the tools, and
- d. drawing a link between who is doing what.

In the second step, you ask the students to modify the map of civic open innovation. Which are the current drawbacks of the civic open innovation programme? How may they solve them? The students will present possible alternative approaches to meliorating the civic open innovation initiative. They list the ways in which the alternative initiatives might work better and why – what aspects are likely to appeal to the government? What features are likely to be more suitable for citizens?

Activity 6. Existing research provides successful examples of civic open innovation. Ask the students to find not successful examples. The students should provide:

- a description of the open civic innovation activity,
- the actors involved,
- the tools applied,
- the reasons why the civic open innovation project failed.

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- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 57(3), 391–400.
- Arnold, M., & Barth, V. (2012). Open innovation in urban energy systems. *Energy Efficiency*, 5(3), 351–364.
- Chesbrough, H. and Di Minin, A. (2014). Open Social Innovation. In Chesbrough, H., Vanhaverbeke, W. & West, J. (Eds.), *New Frontiers in Open Innovation*. Oxford: Oxford University Press.
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- Katsonis, M. and Botros, A. (2015). Digital government: a primer and professional perspectives. *Australian Journal of Public Administration*, 74(1): 42-52.
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- Seltzer, E. & Mahmoudi, D. (2013). Citizen participation, open innovation, and crowdsourcing: challenges and opportunities for planning. *Journal of Planning Literature*, 28(1), 3-18.
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- Wijnhoven, F., Ehrenhard, M., & Kuhn, J. (2015). Open government objectives and participation motivations. *Government Information Quarterly*, 32, 30–42.

ADDITIONAL READING

- Bakıcı, T., Almirall, E., & Wareham, J. (2012). A Smart City Initiative: the Case of Barcelona. *Journal of the Knowledge Economy*, 4(2), 135–148.
- Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart Cities in Europe. *Journal of Urban Technology*, 18(2), 65–82.
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- Goldstein, B. and Dyson, L. (2013). Beyond transparency: open data and the future of civic innovation, Code for America Press.

OTHER MATERIALS

- ESADE WB (2014). Smart Cities summary v1. Video available at: <https://www.youtube.com/watch?v=xbSYqL7wpck> [last accessed on September 27th, 2016].
- <https://www.ideaconnection.com/open-innovation-success/Working-with-the-Crowd-to-Solve-Civic-Issues-00476.html> [last accessed on September 27th, 2016].
- <https://civic.io/> [last accessed on September 27th, 2016].

The European Academic Network for Open Innovation (OI-Net) is an EU co-financed project designed to promote cooperation on open innovation (OI) topics in European Higher Education curricula and institutes for the benefit of EU competitiveness. The aim is to facilitate European cooperation by outlining and exchanging up-to-date concepts, and good practices in open innovation and open innovation education.

More information: www.oi-net.eu

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