

# Catalytic policy capacity and dialogic space in mission-oriented innovation policy as an evolutionary policy

---

Norio Tokumaru

Nagoya Institute of Technology, JAPAN/ [norio.tokumaru@gmail.com](mailto:norio.tokumaru@gmail.com)

# Table of contents

1. Introduction
2. Case study: The case of Oulu, Finland
3. Discussion
4. Concluding remarks

# Introduction

---

# Mission-oriented innovation policy (MOIP)

- **Mission-oriented innovation policy (MOIP)**: creating new market with innovative products, services and systems while solving societal problems (Mazzucato[9]; Schot and Steinmueller[17])
- **“Policy capacity”** or **“dynamic capabilities of public sector”** needed (Karo and Kattel[7]; Mazzucato, Kattel and Ryan-Collins[10])
- ... but, little is known about content and organizations
- in facing with wicked problems, “(t)he design of a good policy is ... the design of an organizational structure capable of learning” (Nelson and Winter[11], p. 384)

# Mission-oriented innovation policy (MOIP)

**Implementation** of MOIP is not self-evident at all:

- Government should influence **direction** and **outcome** of innovations (Foray[5]; Mazzucato[9])
- But, the capacity of government is limited: Skeptical about the government's capacity to influence direction and outcome of innovative efforts (Frenken[6])
  - "**Laissez-faire activist**" approach: Designing "ecostructure" with no direct control (Colander and Kupers[3])
  - Ensuring information sharing by "innovation commons" (Potts[16])

# RQ of this presentation

1. **How can policy influence the direction and outcome of innovative efforts in MOIP under uncertainty and limited capacity of government?**
2. **How is the policy capacity of MOIP organized?**

As MOIP is often actually implemented in local, rather than national, level (Wanzenböck and Frenken[18]), a **local MOIP case** will be examined.

# Case study: The case of Oulu, Finland

---

# Background of the case

- A world center of wireless technology, as 5G represents
- After “Nokia shock”, massive industrial transformation continues
- **Digital healthcare** is one big, emerging area
- A major target of the city’s industrial policy





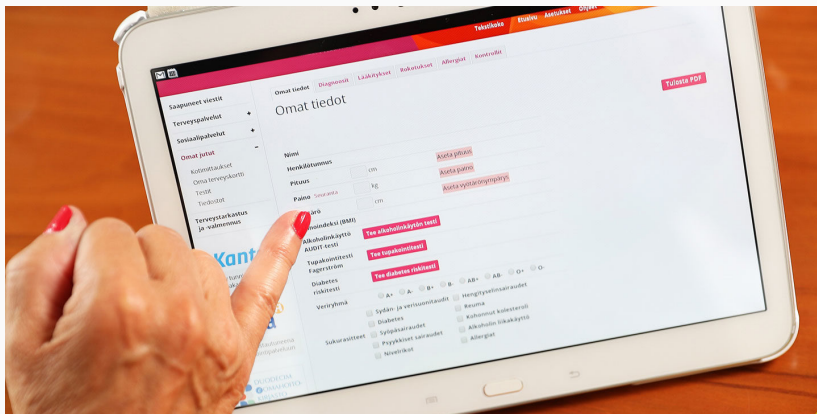
# 1. Digitalization of healthcare system in Oulu

**Digitalization** as a grand strategy of the city's welfare policy.

## “Selfcare system” for selfcare and disease prevention

- **Curbing the cost** of welfare services by digitalization
- Also intended to serve as a **platform** to transform the industry from mobile phone to healthcare
- Planned by the city with three local companies
- **Platform for further product development:** The city has proposed development of services delivered on it
- **Continuous dialogue** with local companies and suggesting partnership between them for new product

# Digitalization of healthcare system in Oulu



## Selfcare system

# 1. Digitalization of healthcare system in Oulu

What did the city do?

## **Welfare system development unit of the city**

- Persuaded the healthcare specialists to use the system
- Invited companies for dialogue on the possible new services on the *Selfcare* system
- Networking and encouraging joint development by companies

## **Business Oulu (City-owned company for business dev.)**

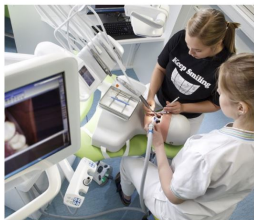
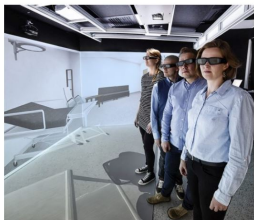
Introducing relevant companies to the *welfare system development unit* of the city

## 2. Ecosystem development for healthcare industry

### “Oulu health lab” as a developmental ecosystem

- **Testbed for companies** to examine new products in the real use situation with dialogue and feedback
- Member: Business Oulu, university hospital, city hospital, university, and the city of Oulu
- Business Oulu as the **coordinator**
- Also as a platform for the city to encounter with many relevant companies

# Examples of “Lab”



- Experimentation at university hospital
- Simulation of a medical device at university laboratory
- Examination at living environment

## 2. Ecosystem development for healthcare industry

What did the city do?

### Business Oulu

- **Dialogue** with members to enhance their commitment
- Setting **new rules** on, for example, the use of hospital facility
- Coordinating with the city's **healthcare policy**
- Developing **new projects** (e.g., “Future Hospital” project) to attract companies **by having dialogue** with members and companies
- Promoting the “lab” to companies by frequently meeting and having dialogue with them

### 3. Summary

The city played **catalyst's** role, in the sense that they encourage actors to enter into a **dialogue** with each other, as catalysts activate chemical reaction.

#### Catalyzing practices in both cases above

1. **networking** the actors
2. **steering** the efforts by the actors to certain directions
3. **facilitating** intensive dialogue among diverse actors
4. **nurturing** the ecosystem for experimentation

# Discussion

---



# 1. Dialogic public space

The city created **dialogic public space**, in the sense that firms can enter *dialogue* with universities, hospitals, the city and citizens on the platforms (*Selfcare* and *Oulu health lab*)

- **Dialogue**, not **negotiation**, as interpretation and value can be changed
- In negotiation, interpretation and value are given and fixed
- **Public space**, as *diverse* perspectives matter for innovative dialogue (Page[13])

... Corresponding to building what Colander and Kupers[3] calls “ecostructure”

## 2. Activating the dialogic public space

The city also **activate** the dialogic public space by . . .

1. Inviting **new participants**; persuading them; networking among them
2. Encouraging **new service development** in collaboration with companies
3. Developing **new projects** to attract new entrants and new ideas

Thus, the city tries to activate the dialogic public space by **participating** it, contrary to standing “outside” the space (Colander and Kupers[3]; Potts[16])  
= “**host of the party**” (a manager at Business Oulu)

### 3. Dialogic public space and path-creation

- The city could identify novel services and projects by having **dialogues** with multiple actors
- ... Novel path could be created **in dialogical manner**
- Dialogue can also be seen as “**imagined or vicarious trial-and-error behavior**” (Popper[15]) before *really executed*, effective to **eliminate errors**
- Thus, **policy capacity can be expanded thanks to the dialogue**, not assumed by complexity and evolutionary economists

## **Concluding remarks**

---

# Summary of the argument

1. The city not only developed **dialogic public space** by inviting variety of stakeholders
2. But the city also **activated** the dialogic public space as a part of **collective catalyzer**
3. Path-creation is possible in a **dialogic manner** with the possibility of **eliminating errors**
4. **Dialogic and learning capacity** is needed as policy capacity, as well as the design capacity of “ecostructure”

- [1] Alhanen, K. (2019) *Dialogue in Democracy*. Helsinki: BoD.
- [2] Bohm, D. (1996) *On Dialogue*. Abingdon: Routledge.
- [3] Colander, D. and Kupers, R. (2014) *Complexity and the Art of Public Policy: Solving Society's Problems from the Bottom Up*. Princeton University Press.
- [4] Dopfer, K. and Potts, J.(2008) *The General Theory of Economic Evolution*. Abingdon: Routledge.
- [5] Foray, D. (2019) 'On Sector-Non-Neutral Innovation Policy: Towards New Design Principles', *Journal of Evolutionary Economics*, 29, 1379-1397.

- [6] Frenken, K. (2017) 'A Complexity-Theoretic Perspective on Innovation Policy', *Complexity, Governance and Networks*, 3/1, 35-47.
- [7] Karo, E. and Kattel, R. (2018) 'Innovation and the State: Towards an Evolutionary Theory of Policy Capacity'. In: Wu, X., Howlett, M. and Ramesh, M. (eds.) *Policy Capacity and Governance: Assessing Governmental Competences and Capabilities in Theory and Practice*. Cham: Palgrave Macmillan.

- [8] Kuhlmann, S. and Rip, A. (2018) 'Next-Generation Innovation Policy and Grand Challenges', *Science and Public Policy*, 45/4, 448-54.
- [9] Mazzucato, M. (2018) 'Mission-Oriented Innovation Policies: Challenges and Opportunities', *Industrial and Corporate Change*, 27/5, 803-15.
- [10] Mazzucato, M., Kattel, R., and Ryan-Collins, J. (2019) 'Challenge-Driven Innovation Policy: Towards a New Policy Toolkit', *Journal of Industry, Competition and Trade*, 20, 421-37.



- [11] Nelson, R.R. and Winter, S.G. (1982) *An Evolutionary Theory of Economic Change*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.
- [12] Ornston, D. (2012) *When Small States Make Big Leaps: Institutional Innovation and High-Tech Capitalism in Western Europe*. New York: Cornell University Press.
- [13] Page, S. (2011) *Diversity and Complexity*. Princeton University Press.
- [14] Phelps, E. (2013) *Mass Flourishing: How Grassroots Innovation Created Jobs, Challenge and Change*. Princeton University Press.

- [15] Popper, K.R. (1987) 'Natural Selection and the Emergence of Mind'. In: Radnitzky, G. and Bartley, W.W. (eds.) *Evolutionary Epistemology, Rationality, and the Sociology of Knowledge*. La Salle: Open Court.
- [16] Potts, J. (2020) *Innovation Commons: The Origin of Economic Growth*. Oxford University Press.
- [17] Schot, J. and Steinmueller, W.E. (2018) 'Three Frames for Innovation Policy: RD, Systems of Innovation and Transformative Change', *Research Policy*, 47/9, 1554-67.

- [18] Wanzenböck, I. and Frenken, K. (2020) 'The Subsidiarity Principle in Innovation Policy for Societal Challenge', *Global Transitions*, 2, 51-9.

# Appendix

# Evolutionary policy

- Routine (or rule)-based behavior, basically based on “knowing how” (Nelson and Winter[11]).
- Non-evolutionary policy: trying to change **outcomes** by measures including incentivizing, monitoring and control
- **Evolutionary policy**: trying to enhance the *evolutionary* change of **routines**, basically by activating learning and experimentation (Dopfer and Potts[4])

Question is, **how and to what degree** actual practices can be characterized as evolutionary. Mixture of non-evolutionary and evolutionary approaches may be the case, too.

# Dialogue

- “Dialogue is a distinctive style of discussion, which primarily aims at learning and thus increasing *understanding* of the world” “The core of dialogue is *meanings*” (Alhanen[1])
- “The object of a dialogue is not to analyze things, or to win the argument, or to exchange opinions. Rather, it is to suspend your opinions and to look at the opinions, – to listen to everybody’s opinions and to see what all that *means.*” (Bohm[2])

... Clearly different from other types of conversation, like **negotiation** and **debate**.

# Conceptual background: Corporatism

- Focus on the **inter-sectoral collaboration**
  - Important for MOIP (Frenken[6]; Kuhlmann and Rip[8]; Mazzucato[9])
- **Corporatism**, in a broad sense, as a case in point  
=Decision-making through inter-sectoral negotiation
  1. **Enabling radical re-orientation of resource allocation and industrial restructuring** (“creative corporatism”: Ornston[12])
  2. But, **criticized due to the failure of centralized decision-making** (Colander and Kupers[3]; Phelps[14])

# Conceptual background: Corporatism

- Both of them share the assumption: Corporatism is effective due to the **centralized negotiation** and **top-down implementation**
- But, **whether and how is corporatism effective under the radical uncertainty in MOIP? Is corporatism changing?**



# Dual roles of corporatism

## Corporatism has two distinct roles:

1. Traditional role of consensus building when actors agreed to create the dialogic public space
2. **Catalytic role to activate dialogue and experimentation** by participating in dialogic public space

The second layer, *catalytic corporatism*, is added, which enables both **re-orientation** of innovative effort and **bottom-up self-organization**.