VTT Technical Research Centre of Finland

Systemic Evaluation in the making

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“Systemic Evaluation in the making: A Case Study”

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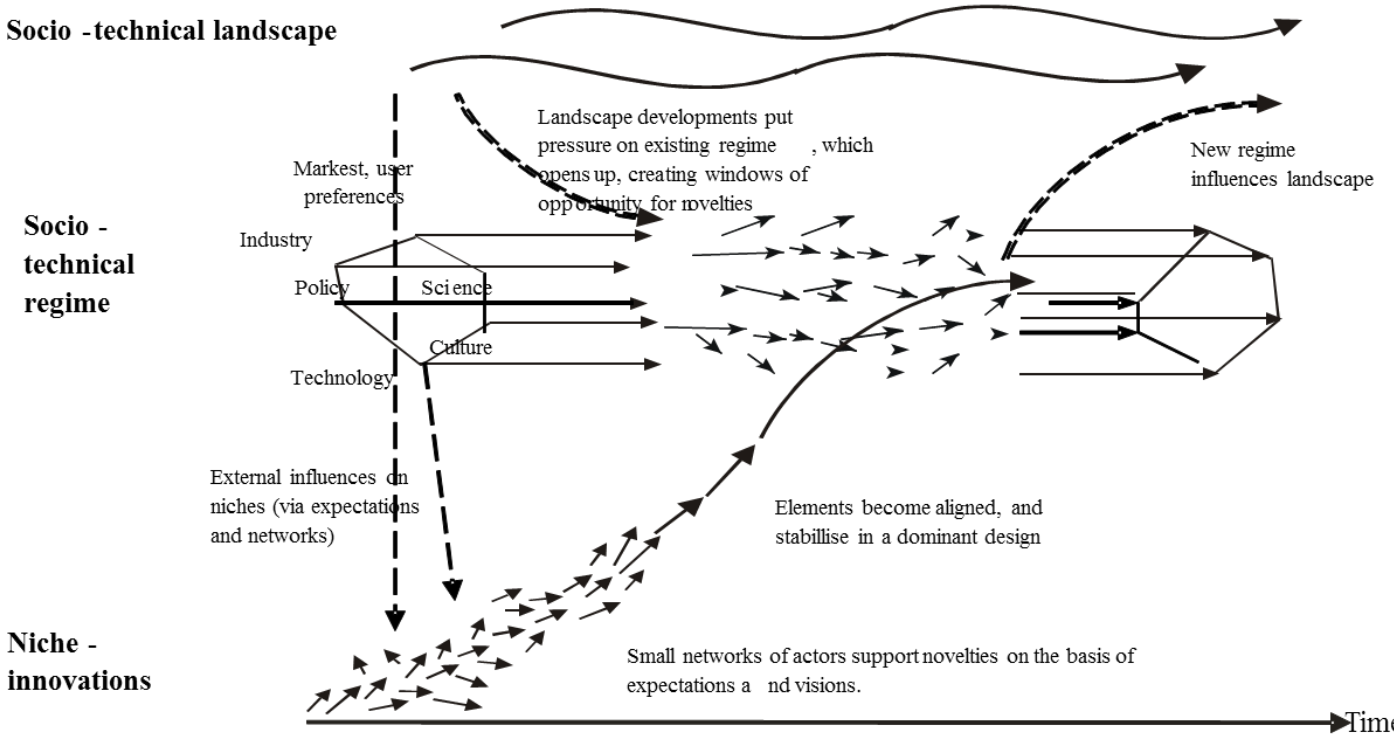
Towards ”next generation”

- The presented case is a further developed and contextualised systemic evaluation model of future-oriented impact assessment
- It bases on the previous work e.g.:
  - Hyytinen K. (2017) Supporting service innovation via evaluation: a future oriented, systemic and multi-actor approach. Aalto University publication series, 14/2017, VTT Science, 146.
  - Nieminen M. & Hyytinen K. (2015) Future-oriented impact assessment: Supporting strategic decision-making in complex socio-technical environment. Evaluation. Sage. Vol. 21, No: 4, 448-461.
  - Hyytinen, K., Ruutu, S., Nieminen, M., Gallouj, F. & Toivonen, M. (2014). A system dynamic and multi-criteria evaluation of innovations in environmental services. Economics and Policy of Energy and the Environment, 3,29-52. DOI: 10.3280/EFE2014-003003
  - Auvinen, H., Ruutu, S., Tuominen, A., Ahlqvist, T. & Oksanen J. (2014): Process supporting strategic decision-making in systemic transitions: case study of emission free transport in cities by 2050. Technological Forecasting and Social Change

Four hypotheses

1. The impacts and change in a system are rarely formed by direct (causal) linkages between inputs, processes etc., but indirectly via number of intermediary elements and actors and their complex interaction in a system.
2. In order to ensure a system transformation you need to affect a number of actors and elements in a system, or alternatively find a key actor(s) or element(s) in a system which has the power to trigger a wider change in the system
3. The success of an organization, program etc. depends on the fact how well it has identified and addressed various dimensions and actors in the system and found the right mechanisms to proceed with them to change the system.
4. Evaluation needs to focus on an organization's, program's etc. ability to address and create change in this kind of systemic environment

Theoretical backbone: Multi-level perspective



Source: Geels & Schot 2007

Integration of methodologies

- **Evaluation** provides information on the current stage of the system, potential and realized impacts of actions from a multi-criteria perspective.
- **Foresight** yields information about future transformations in the system, provides options for alternative futures and analyzes trends and drivers causing change in the system.
- **System dynamic modelling** provides formal analysis of interdependencies and feedback loops among the actors and their environment. Constructing formal models and simulating policy options in the model helps to understand impacts which are not usually that evident or visible.
- **Participatory** process provides a multiple views to analysis of impacts and supports collaborative reflection

The case

- **Sitra**, the Finnish Innovation Fund, is an independent public organization which reports directly to the Finnish Parliament. Sitra's operations are funded by the return from endowment capital that is about 30M euros a year.
- Its mission is defined in the legislation: "to promote stable and balanced development in Finland, qualitative and quantitative economic growth and international competitiveness and cooperation". For this purpose it establishes "projects that increase the efficiency of the economy, improve the level of education or research, or study future development scenarios"
- Sitra defines itself currently as a "future house" which mission "involves creating preconditions for reform, spurring everyone towards making a change and providing opportunities for co-operation. What it means in practice is that Sitra investigates, explores and develops operating models in close co-operation with other responsible operators…".
- Its way to create change is currently based on wide societal programs on wide thematic areas like Capacity for renewal, Carbon-neutral circular economy, and New working life and sustainable economy

The case

- Our case evaluation focused on Sitra's strategic objective area "Towards renewing and inclusive economy".
- Sitra's goals are large, systemic changes that involve multiple actors, thus impacts are predominantly indirect and dependent on the actions of other actors. Sitra facilitates changes by using various impact-generating mechanisms and measures.
- Due to the nature of Sitra's goals and activities, evaluation by traditional impact metrics would have been challenging and possibly misleading.

How the thing was made?

- The theoretical framework was based on the Multi-Level Perspective (e.g. Geels & Schot 2007): The framework reflected Sitra's role in facilitating renewal of the regime and cultivating and new niche solutions.
- As a starting point we used regime dimensions defined in the theory: Sitra should be able to affect those dimensions and actors as well as their interaction in order to support societal renewal in the chosen strategic areas
- The regime dimensions were modified (but still in concordance with the original one) to better follow Sitra's own understanding of its operational environment:

I. Politics and government; politicians, policy makers and civil servants (nationally, regionally, and locally)
II. Private sector, enterprises and entrepreneurs
III. Science, research and technology development (universities, colleges and research institutes)
IV. The third sector (NGOs)
V. Private citizen
VI. Media and culture (journalists, media houses, cultural influencers)

How the thing was made?

As data we used:

- Sitra programme and project reports and other materials
- Stakeholders' documents (strategy papers, reports, studies, and web pages), which were used to assess the progress towards the goal and Sitra's role in it
- Sitra's internal evaluation and monitoring data
- Interviews of Sitra's programme and project managers and stakeholders (Altogether 14 Sitra personnel and 45 representatives of the stakeholders from 41 different organizations)
- In addition, we organized 3 stakeholder workshops to create a system dynamic model of Sitra's operations and systemic impact paths; this connected also future perspective to the impact assessment (model as an instrument for anticipation)

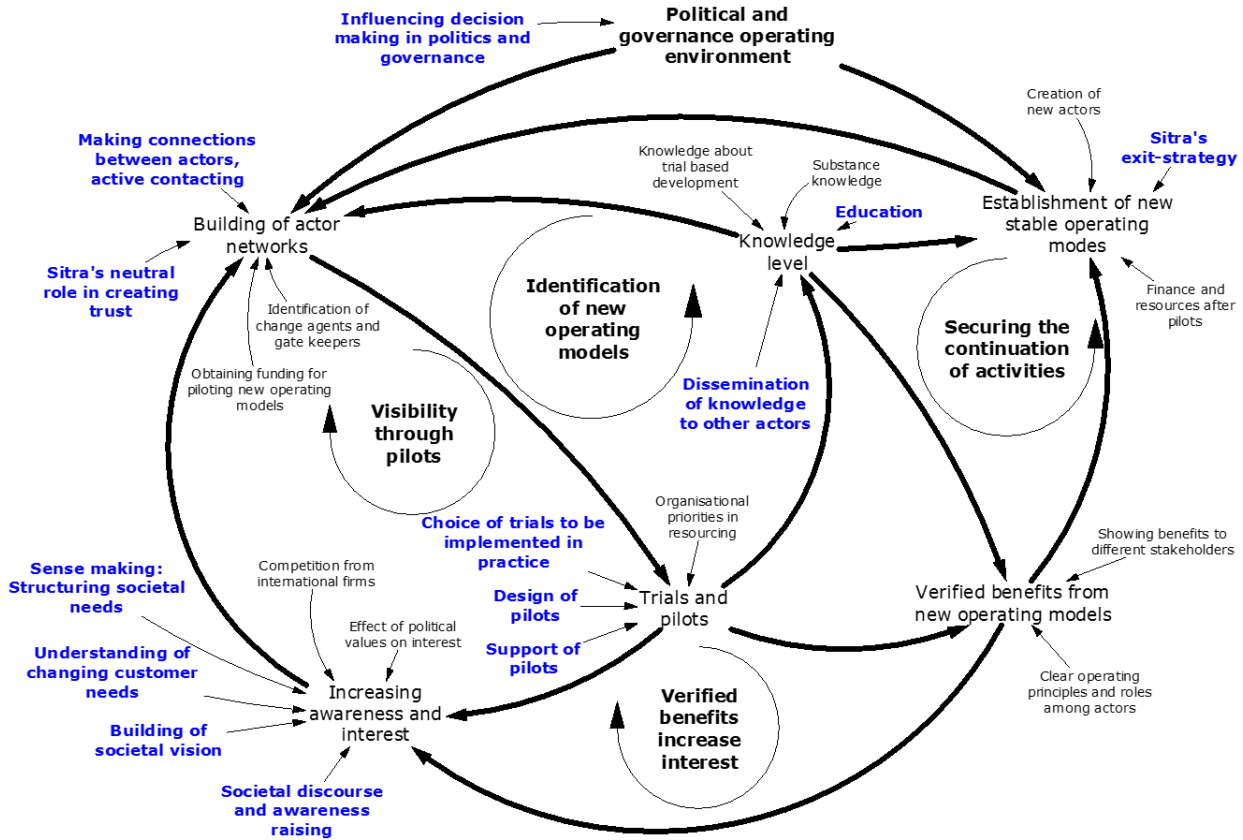
Results

- Report available: https://media.sitra.fi/2017/11/29120141/Selvityksia127.pdf

- Sitra utilises different mechanisms to reach a variety of stakeholders that are necessary to effect systemic changes. The six impact pathways recognized :
  - “Sense making” about new concepts and ideas
  - Starting conversations about societal challenges and new solutions
  - Network building around recognized challenges or solutions
  - Pilot projects and trials to test potential new solutions
  - Establishment of new behaviours or practices
  - Building political and administrative base for change by influencing policy-makers
- Sitra has the ability address and engage different actors comprehensively through various means and channels
- Sitra has had clear contribution in shaping public discussion, influencing policy-makers, facilitating network formation, setting common goals, as well as supporting pilot projects

Key domain (projects)	Politics	Admin.	Third sector	Citizens	Private sector	Science	Labour markets	Media	Technology
Leading public sector	++	++	-	-	-	-	-	-	-
Resource wise citizen	-	-	-	++	++	-	-	-	++
Sustainabale welfare	+	+	++	++	+	+	+	++	-
Changing working-life	++	++	+	+	+	++	++	-	-
Circular economy	++	++	++	+	++	+	-	++	+
Isaacus	+	++	+	+	++	+	-	-	++
SUUNTA-collaboration	++	++	-	-	+	-	-	-	-
Impact investing	++	++	++	+	++	-	+	-	-
Basic income trial	++	++	+	+	-	+	++	++	-
Carbon neutral industry	+	+	-		++	+	-	-	+
Active citizen	+	++	++	++	+	-	-	-	-
Sustainabale economic policy education	++	++	++	-	-	+	+	+	-
Resource wise region	+	++	+	+	+	+	-	+	+
Welfare from knowledge	++	++	+	+	++	+	-	+	++
Enabling information society	++	++	-	+	+	-	-	-	++
Industrial symbiosis	++	++	-	-	++	-	-	-	-
Green economy solutions	+	++	++	+	++	+	-	-	+
Welfare business from nature	-	-	-	+	++	+	-	+	+
Leadership	+	++	+		-	-	++	-	+
Energy program	++	++	++	+	++	+	-	+	+

Results: System dynamic model



Usefulness of approach?

- The approach is able to provide a comprehensive overview of impact mechanisms & identifies the multiplicity of actors and elements affecting the formation of impacts in a non-linear way
- Compared to data-driven qualitative analysis more robust theoretical base & understanding of impact paths
- Able to make visible the complex feedback loops and intermediary linkages between various elements and actors
- Supports the analysis and co-creation of complex impact paths together with the stakeholders
- However:
  - As a new and complex approach difficult to communicate to the customer and stakeholders
  - Focuses on processes as the exact measurement and definition of impacts is difficult

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