



A Framework for Theory Development in Foresight

Piirainen, Kalle

Publication date:
2015

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Piirainen, K. (2015). *A Framework for Theory Development in Foresight*. Poster session presented at 5th International Conference on Future-Oriented Technology Analysis, Brussels, Belgium.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



European
Commission

5th International Conference on Future-Oriented
Technology Analysis (FTA)
Engage today to shape tomorrow
Brussels, 27-28 November 2014

A Framework for Theory Development in Foresight

What does it mean to have a theory of foresight?

The academic literature has frequently observed that foresight lacks a coherent theoretical basis. The discussion on theory of foresight calls for 'a theory', but it rarely expounds what the scope of theorizing is or should be. We propose that 'theory of foresight' has three overlapping meanings which give rise to three levels of theorizing in and of foresight.

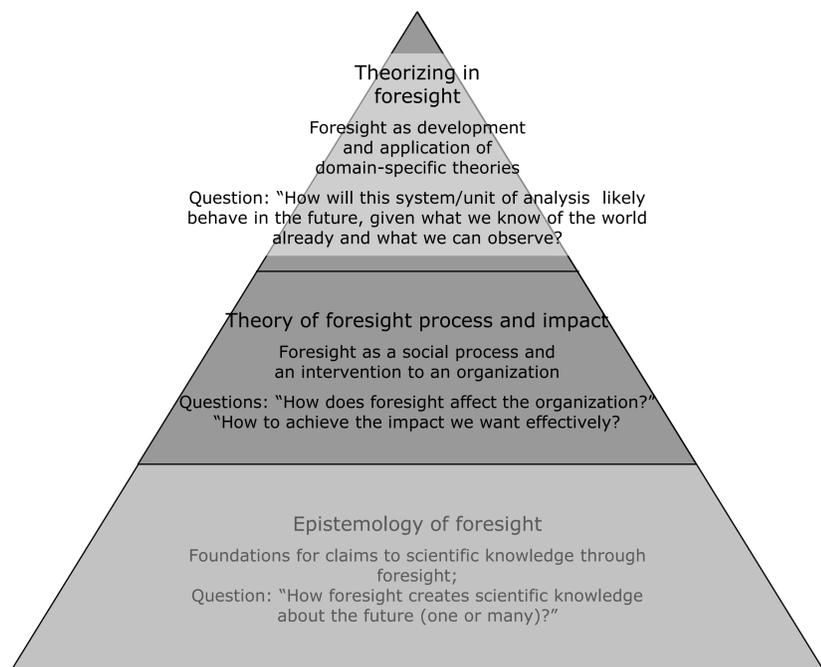
Levels of theory and theorizing in foresight

Foresight is a purposeful process of developing knowledge about the future of a given unit of analysis or a system of actors, which is aimed at action in the form of public or private policy making, strategizing and planning. Foresight is also frequently a participatory, involved and collaborative process. Leaning on this definition, we propose that foresight is

- An organized social process; an intervention (in an organization),
- to create actionable and domain/context specific information or knowledge about the future

Following this definition, we propose that 'theory of' or in foresight means one or several of the following three things:

1. a 'theory of the future' as in the philosophical and methodological underpinnings of foresight as a knowledge creating activity, i.e. epistemology
2. theory of foresight as a process of organizational or social intervention and developing a theory of why foresight has the impact we observe or expect
3. domain specific theory that explains and predicts the behavior of a system of interest and gives grounds to conjectures about the future



A framework for theory of and in foresight

The following table condenses the suggested framework for theory development on and within foresight. From the top, the first level is developing domain specific explanations for the behavior of the system of interest, answering why the system is in the observed state and what processes, mechanism and drivers have brought it there, which enables conjectures about its plausible future states.

The second level is developing explanations for foresight impact and more effective foresight interventions. Besides developing a macro-level explanation for the impacts of foresight, the foresight process itself is an interesting object of study in terms of group dynamics and behavior and their effects on the results and impacts.

The third and final level is epistemology, i.e. the philosophical foundation of foresight as a knowledge creating activity. Through explicit discussion we can gain insight to the boundaries of knowledge that foresight can produce.

| Levels of analysis | Micro perspective, Individual behavior | Meso perspective Individual organizations or other groups | Macro perspective National or other populations |
|------------------------------------|---|--|--|
| Theorizing in foresight | | How does the unit of analysis function, what factors make up the behavior of the system, why? Given the properties of the system, what is likely to happen in the future? Theoretical basis: domain and question specific theory from social sciences, economics, science, engineering | |
| Theory of foresight process | Given the objectives, what incentives/instruments are needed to induce behavior that fill the gap from present to the goals? Theoretical basis: behavioral science, economics, engineering, policy analysis | How do individual biases affect foresight, and how to design foresight to minimize them? How do individual perceptions affect impact and acceptance of foresight? Theoretical basis: behavioral sciences, psychology | How do group and organizational dynamics affect foresight process, how to design and facilitate foresight for best effect? How do organizational and group dynamics affect impact of foresight? Theoretical basis: behavioral science, economics, business administration, policy analysis |
| Epistemology of foresight | How and what of can foresight generate knowledge? What are the boundaries of knowledge generated from within different inquiring paradigms and with different methods? Theoretical basis: ontology, epistemology, methodology | | |

We argue together with others that more rigorous theory development would both improve quality of foresight and its impact to society. Theory can contribute to better, more repeatable and effective foresight interventions. Additionally, discussion on epistemology of foresight helps researchers and practitioners understand the borders of knowledge created in foresight and its applicability. Thus we encourage discussion about and around this framework for theorizing in and of foresight.

Contact Kalle A. Piirainen
Technical University of Denmark – DTU,
DTU Management Engineering
Lappeenranta University of Technology,
LUT School of Industrial Engineering and Management
Email: kalpii@dtu.dk

www.jrc.ec.europa.eu

Joint
Research
Centre